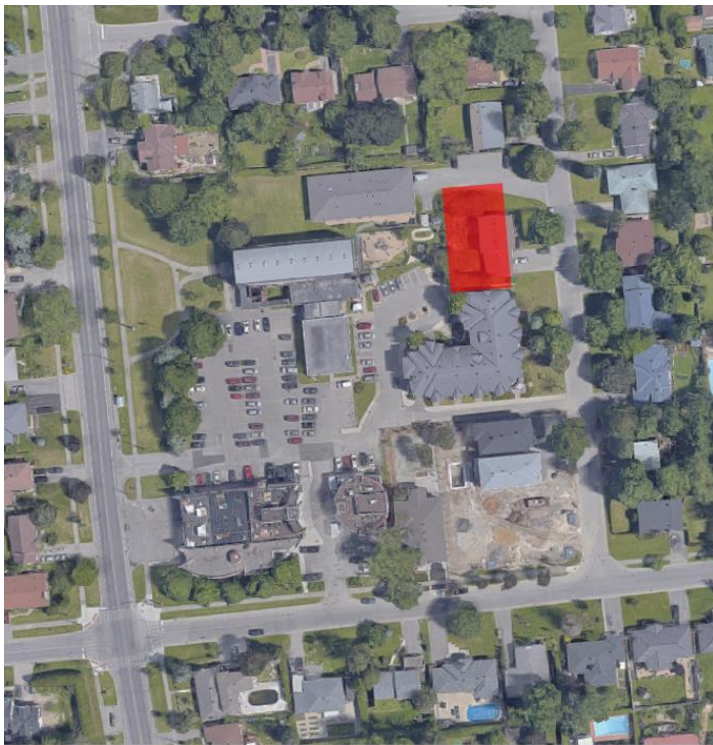


ELLWOOD HOUSE

2262 BRAESIDE AVENUE TRANSPORTATION IMPACT ASSESSMENT FINAL REPORT

FEBRUARY 09, 2023



CERTIFICATION FORM FOR TIA STUDY PM

TRANSPORTATION IMPACT ASSESSMENT REPORTS

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

CERTIFICATION

- I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
- I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
- I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
- I am either a licensed¹ or registered² professional in good standing, whose field of expertise is either
 - Transportation engineering
 - Transportation planning

^{1,2} License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

Dated at Ottawa this 9 day of February, 2023
(City)

Name: Kimberley Hunton, P. Eng.

Professional Title: Project Manager, Transportation Planning

Signature of individual certifier that they meet the above criteria

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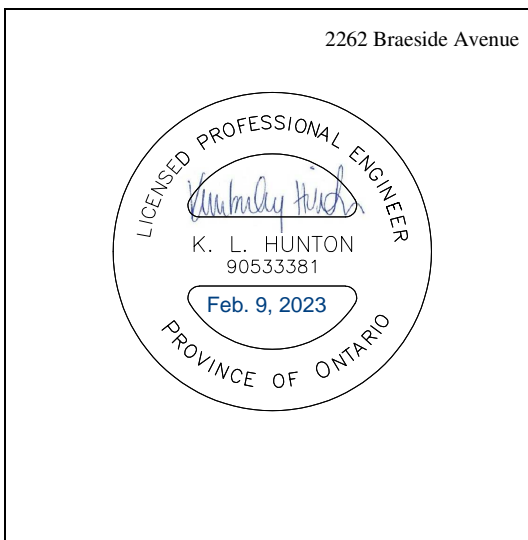
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2262 BRAESIDE AVENUE TRANSPORTATION IMPACT ASSESSMENT FINAL REPORT

ELLWOOD HOUSE

PROJECT NO.: OUR REF. NO. 20M-01221-00
DATE: FEBRUARY 09, 2023

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APPENDICES

- A** CIRCULATION COMMENT / RESPONSE
- B** SCREENING FORM
- C** DRAFT SITE PLAN
- D** TRANS O-D SURVEY
- E** DEVELOPMENT DESIGN CHECKLIST
- F** AUTOTURN ANALYSIS
- G** MMLOS SEGMENT CALCULATIONS
- H** TDM CHECKLIST

1 SCREENING

This Transportation Impact Assessment (TIA) has been prepared to support the Site Plan Control Application and Zoning By-law Amendment for the development at 2262 Braeside in Ottawa. The TIA follows the City of Ottawa guidelines which potentially includes five steps:

- 1 Screening
- 2 Scoping
- 3 Forecasting
- 4 Analysis
- 5 TIA Report

The Screening Step determines the need to continue with a TIA Study. The development is assessed against three triggers: trip generation, location, and safety to identify the next step of the study. If one or more of the triggers is satisfied, the Scoping Step must be completed. If none of the triggers are satisfied, the TIA is deemed complete. If one or more triggers are satisfied, specific TIA components are required to be carried out depending on the combination of triggers (**Table 1-1**) that have been satisfied.

The proposed development at 2262 Braeside **satisfied the Location and Safety triggers** indicating that, as part of Steps Two through Five of the TIA process, the Design Review and Network Impact components should be completed. For reference, the completed Screening Form is provided in **Appendix B**.

Table 1-1. Transportation Impact Assessment (TIA) Screening Triggers

| Next Step of the TIA Process | TIA TRIGGERS SATISFIED | | |
|---|------------------------|----------|--------|
| | Trip Generation | Location | Safety |
| <i>Design Review and Network Impact</i> | No | Yes | Yes |

2 SCOPING

2.1 SCREENING FORM

The completed Screening Form is provided in **Appendix B**.

2.2 DESCRIPTION OF PROPOSED DEVELOPMENT

This Transportation Impact Assessment (TIA) has been prepared in support of the Zoning By-law Amendment and Site Plan Control Applications for the proposed development at 2262 Braeside Avenue in Ottawa, which represents a proposed extension to the existing Ellwood House retirement home at 2270 Braeside Avenue. The extension is located midblock on Braeside Avenue between Randall Avenue and Clontarf Avenue.

The property shares access points with St. Thomas The Apostle Church and Nursery School and Ottawa Fire Station 35. The property is currently zoned as a Minor Institutional Zone (I1A), Subzone A Urban Exception 1485 (I1A[1485]). **Figure 2-1** illustrates the Study Area Context.

The development information, as stated in the draft site plan attached as **Appendix C**, states that 38 new units will be built along with a net increase of 27 parking spaces in the shared parking lot with St. Thomas Church and School. As part of the Zoning By-law Amendment, parking requirements for the proposed development and other existing uses on the St. Thomas campus are proposed to be redistributed throughout reconfigured parking lots.

Two of the three existing site accesses will remain as the access/egress points to the proposed development. Both the accesses on Alta Vista Drive and Randall Avenue will remain, while the existing access on Braeside Avenue will be converted to allow for only egress. Additionally, one new access is being proposed on Alta Vista Drive, along with a realignment of an existing access on Braeside Avenue that will be for ingress only. It should be noted that the access on Randall Avenue requires the vehicles to cross through Ottawa Fire Station 35's parking lot (not the fire access).

The facility will be built as a single phase beginning in Spring 2023 with occupancy expected in 2024.

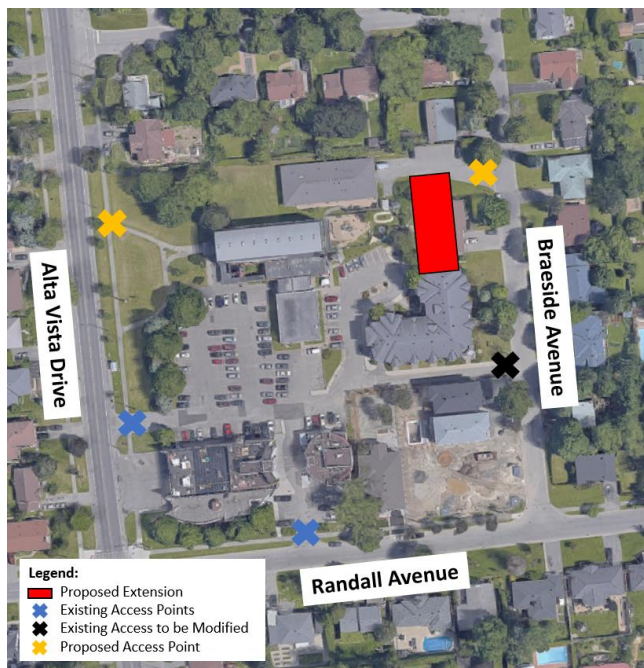


Figure 2-1. Area Context Plan

2.3 EXISTING CONDITIONS

2.3.1 ROADWAYS AND PEDESTRIAN / CYCLING FACILITIES

The three existing roadways that the TIA will consider are Braeside Avenue, Alta Vista Drive, Randall Avenue.

None of these roads are designated as truck routes as identified on the Ottawa Urban Truck Routes map (March 2021) under the jurisdiction of the City of Ottawa. The road classification for City of Ottawa roadways are defined in the City of Ottawa Official Plan, 2013, Volume 1, Section 7, Annex 1 Road Classifications and Rights-of-Way.

Braeside Avenue is an urban local road that runs in a north-south alignment with a posted speed limit of 50 km/h. It has one traffic lane in each direction. The right-of-way adjacent to the proposed development is approximately 20 metres. Street parking is permitted on both sides of the road.

Alta Vista Drive is an urban major collector road that runs in a north-south alignment with a posted speed limit of 50 km/h. It has one traffic lane in each direction. The right-of-way adjacent to the driveway of the proposed development is approximately 30 metres. Street parking is prohibited on both sides of the road.

Randall Avenue is an urban local road that runs in an east-south alignment with a posted speed limit of 50 km/h. It has one traffic lane in each direction. The right-of-way adjacent to the driveway access to the proposed development is approximately 19 metres. Street parking is permitted on both sides of the road.

The existing pedestrian and cycling facilities providing direct connections to the proposed development are shown in **Figure 2-2**. Alta Vista Drive has an on-street cycling lane and 1.5m sidewalk on both sides of the road, while Randall Avenue possesses a 1.5m sidewalk on the north side of the road.

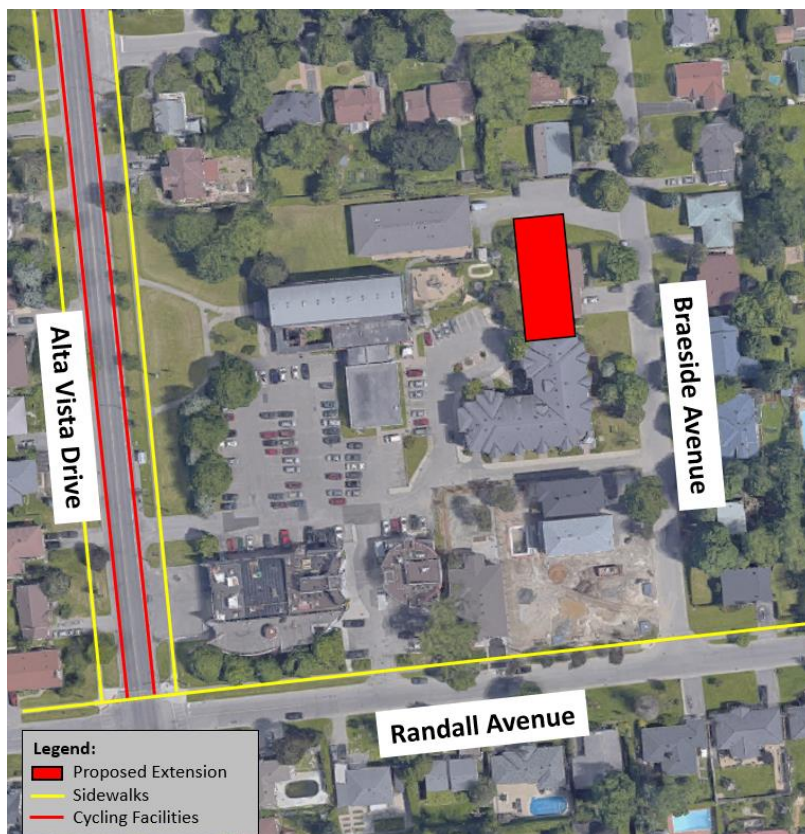


Figure 2-2: Bicycle and Pedestrian Facilities

2.3.2 INTERSECTIONS

The TIA will not consider any intersections in the study area given that the trip generation trigger was not met.

2.3.3 DRIVEWAYS

There are three existing accesses to Ellwood House.

- One access from Braeside Avenue just south of the existing Ellwood House.
- One access from Alta Vista Drive via the parking lot at St. Thomas The Apostle Church parking lot.
- One access from Randall Avenue via the parking lot for Ottawa Fire Station 35. However, it is not expected that any trips to and from 2262 Braeside Avenue will pass through this access.

Additionally, there is one access point to the former rectory at 2262 Braeside Avenue but does not provide access to the parking lot at Ellwood House.

2.3.4 TRANSIT FACILITIES

OC Transpo does not provide transit service along Braeside Avenue. The nearest transit stops are on Alta Vista Drive servicing Route #44 which goes from Hurdman O-Train to Billings Bridge Station. Route 44 is a Frequent Route that operates seven days a week with a 15-minute frequency throughout most of the day.

There are two bus stops within 300 metres of the proposed development that all service Route #44 and are on Alta Vista Drive:

- Bus Stop #7180 is within 150 m from the proposed site
- Bus Stop #7179 is within 250 m from the proposed site

Figure 2-3 highlights all OC Transpo bus stops on adjacent roadways in close proximity of the proposed development.



Figure 2-3: OC Transpo Bus Routes

2.3.5 AREA TRAFFIC MANAGEMENT MEASURES

The existing area traffic management measures identified adjacent to the proposed development site include:

- Boulevards between the sidewalk and road along Alta Vista Drive and Randall Avenue
- Sidewalks are on both sides of Alta Vista Drive
- Alta Vista Drive has curbside bike lanes on both sides of the road with painted lines to delineate from vehicular traffic

2.3.6 PEAK HOUR TRAVEL DEMANDS

The TRANS Committee was established to co-ordinate transportation planning efforts among various planning agencies located within the National Capital Region. For this analysis, the existing mode share of the Alta Vista district for low-rise multifamily housing was taken as the existing mode share. A map of the district area is provided in **Appendix D**. The TRANS mode share for the Alta Vista Area is summarized in **Table 2-1**.

Table 2-1. Existing Mode Share – Alta Vista District (Low-Rise Multifamily Housing)

| TRAVEL MODE | AM PEAK PERIOD (7:00 A.M. – 9:30 A.M.) | PM PEAK PERIOD (3:30 P.M. – 6:00 P.M.) |
|----------------|--|--|
| Auto-Driver | 38% | 38% |
| Auto-Passenger | 15% | 19% |
| Transit | 35% | 31% |
| Bicycle | 1% | 2% |
| Walk | 10% | 10% |

Source: 2021 TRANS Trip Generation Manual

Reviewing the mode share for the new development, over half are expected to use their personal vehicles to commute as either a driver or passenger. During both AM and PM peak hour periods, auto-driver and auto-passenger modes account for 53% and 57% of the total vehicles that are travelling to and from Ellwood House. Additionally, transit mode share is expected to be over 30% for both peak periods.

2.3.7 FIVE-YEAR COLLISION HISTORY

Using the collision history from the City of Ottawa Open Data, WSP reviewed the number and types of collisions (January 1, 2015 through December 31, 2019) at the three existing access points to Ellwood House. More recent and detailed five-year collision data will be requested from the City in support of a more thorough collision review. **Table 2-2** summarizes the five-year collision history on the boundary road.

Table 2-2. Five Year Collision History Summary

| LOCATION | SUMMARY | TRENDS |
|---|---|--------|
| Access Road: Alta Vista Drive and Access Point | Three collisions over the five-year period. | - |
| Access Road: Randall Avenue and Access Point | One collision over the five-year period. | - |

2.4 PLANNED CONDITIONS

2.4.1 CHANGES TO THE STUDY AREA TRANSPORTATION NETWORK

Based on the City of Ottawa’s Construction and Infrastructure projects, the only major project near the adjacent roads expected to this year is a buildings and facilities renewal at Ottawa Fire Station 35.

The City of Ottawa completed the Alta Vista Drive Functional Design Study between Faircrest Road and Edge Hill Place in 2022x. The purpose of the functional design was to renew aging underground utilities such as sewers and water mains, which provided an opportunity to upgrade facilities for pedestrians and cyclists along the Alta Vista Drive corridor, including within the study area of the proposed development at 2262 Braeside Avenue. While the section of Alta Vista Drive north of the proposed site (Billings Avenue to Kilborn Avenue) is scheduled for reconstruction in approximately 3-6 years, at this time, the City of Ottawa does not have committed budget or an estimated timeline of completion for the section of Alta Vista Drive adjacent to the proposed development.

2.4.2 OTHER STUDY AREA DEVELOPMENTS

As indicated in the City of Ottawa’s Development Application Search tool, there are no other developments near the study area that could influence it.

2.5 STUDY AREA

The limits for the Transportation Impact Assessment (TIA) study area are shown in **Figure 2-4**.



Figure 2-4: Study Area

2.6 TIME PERIOD

The time period identified for the traffic analysis are:

- Weekday Peak Hour: 3:15 p.m. to 4:15 p.m.

These are consistent with the peak hour identified in the turning movement counts that were collected at the Alta Vista Drive/Randall Avenue intersection on November 20, 2018.

2.7 HORIZON YEARS

The proposed facility is expected to be completed in one phase with a target build-out year of 2022 and full occupancy in mid 2023. In accordance with the TIA Guidelines, the following horizons will be considered for analysis

- 2023, which represents the anticipated buildout horizon,
- 2028, which represents the buildout year plus five years.

Recall that the trip generation trigger was not satisfied and thus no analysis of the adjacent intersection is proposed.

2.8 EXEMPTIONS REVIEW

Based on the review of the development and network conditions, the following elements shown in **Table 2-3** qualify for an exemption from this Transportation Impact Assessment.

Table 2-3. Exemptions Summary

| MODULE | ELEMENT | EXEMPTIONS |
|--------------------------------------|------------------------------|---|
| DESIGN REVIEW COMPONENT | | |
| 4.1 Development Design | 4.1.2 Circulation and Access | Not Exempted This element is only required for site plans. |
| | 4.1.3 New Street Networks | Exempted This element is only required for plans of subdivision. |
| 4.2 Parking | 4.2.1 Parking Supply | Not Exempted This element is required for site plans. |
| | 4.2.2 Spillover Parking | Exempted This element is only required for site plans where parking supply is 15% below unconstrained demand. |
| NETWORK IMPACT COMPONENT | | |
| 4.5 Transportation Demand Management | All Elements | Not Exempted This element was required for the residential component. |
| 4.6 Neighborhood Traffic Management | 4.6.1 | Exempted Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds. |
| 4.7 Transit | | Exempted Required for site plans expected to have more than 60 employees on location at any given time. |

| | | |
|---------------------|--|--|
| 4.8 Network Concept | | Exempted Required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by establishing zoning. |
|---------------------|--|--|

3 FORECASTING

3.1 DEVELOPMENT-GENERATED TRAVEL DEMAND

3.1.1 TRIP GENERATION

Select Base Trip Generation. The 2020 TRANS Trip Generation Manual was used to determine the base trip generation rate for a *Multi-Unit Low-Rise*:

- AM Base Rate: 1.35 person trips per unit (peak period)
- PM Base Rate: 1.58 person trips per unit (peak period)

Estimated Total Development-Generated Person-Trips. In accordance with the City of Ottawa’s Transportation Impact Assessment Guidelines (2017), peak period conversion factors, from the TRANS Trip Generation Manual, were applied to both rates to establish the trip rates for the peak hour.

Ellwood House and the proposed extension is intended to be a safe and affordable permanent home to independent seniors. The TRANS Trip Generation Manual specifically mentions age as an influencing factor on the number of trips generated during a peak hour and a 20% reduction factor was applied to the estimated person trips during each peak hour. The total development-generated person-trips are shown in **Table 3-1**.

Table 3-1. Estimated Total Development-Generated Person-Trips (Multi-Unit Low-Rise)

| PEAK HOUR | UNITS | PEAK PERIOD PERSON TRIP RATE | PEAK PERIOD CONVERSION FACTOR | PEAK HOUR PERSON TRIP RATE | TOTAL PERSON TRIPS | REDUCED PERSON TRIPS |
|-----------|-------|------------------------------|-------------------------------|----------------------------|--------------------|----------------------|
| AM | 38 | 1.35 | 0.50 | 0.68 | 26 | 21 |
| PM | | 1.58 | 0.44 | 0.70 | 27 | 22 |

With the residential directional splits from the TRANS Trip Generation Manual, the directional distribution of vehicles entering and exiting was determined and is shown in the following table.

Table 3-2. Directional Splits (Multi-Unit Low-Rise)

| PEAK HOUR | PERSON TRIPS | % ENTER | % EXIT | ENTER | EXIT |
|-----------|--------------|---------|--------|-------|------|
| AM | 21 | 30% | 70% | 6 | 15 |
| PM | 22 | 56% | 44% | 12 | 10 |

Identify Existing Mode Share. The existing peak hour travel demand was identified from the most recent TRANS Origin-Destination Survey and presented in **Section 2.3.6**. The existing mode share is based on those values and is shown in the following table.

Table 3-3. Existing Mode Share

| PEAK PERIOD | AUTO DRIVER | AUTO PASSENGER | TRANSIT | BICYCLE | WALK |
|-------------|-------------|----------------|---------|---------|------|
| AM | 38% | 15% | 35% | 1% | 10% |
| PM | 38% | 19% | 31% | 2% | 10% |

Future Mode Share Targets. The future mode share targets are provided in **Table 3-4.**

Table 3-4. Future Travel Mode Share Targets

| TRAVEL MODE | COMMUTER TARGET MODE SHARE | RATIONALE |
|----------------|----------------------------|---|
| Auto Driver | 38% | Future mode share targets are anticipated to be close to existing conditions based on the nature of the development |
| Auto Passenger | 17% | |
| Transit | 33% | |
| Bicycle | 2% | |
| Walk | 10% | |

Projected Development Trips by Mode. Based on the future mode share targets. The number of persons trips to and from the proposed development at 2262 Braeside Avenue are shown in **Table 3-5.**

Table 3-5. Trips Generated by Mode

| MODE | TRIPS GENERATED | |
|----------------|-----------------|--------------|
| | AM Peak Hour | PM Peak Hour |
| Auto Driver | 8 | 8 |
| Auto Passenger | 3 | 4 |
| Transit | 7 | 7 |
| Bicycle | 0 | 0 |
| Walk | 2 | 2 |

Trip Reduction Factors. As mentioned earlier, a 20% reduction factor was applied to account for the average age of residents at Ellwood House. No other trip reduction factors were considered for this development based on the existing operations at the Ellwood House.

3.1.2 TRIP DISTRIBUTION

Currently, there are three accesses to Ellwood House, but as mentioned in **Section 2.3.3**, it is not expected that any trips to and from 2262 Braeside Avenue will pass through the access on Randall Avenue that crosses through the parking lot for Ottawa Fire Station 35. The Site Plan (**Appendix C**) indicates two accesses along Alta Vista Drive and two on Braeside Avenue. The trip distribution by cardinal direction for the proposed development is presented as follows:

Table 3-6. Trip Distribution

| DIRECTION | CARDINAL DIRECTION SPLIT (%) | |
|-----------|------------------------------|--------------|
| | AM Peak Hour | PM Peak Hour |
| North | 50% | 50% |
| South | 50% | 50% |

3.1.3 TRIP ASSIGNMENT

Trips were assigned to the adjacent transportation network and have been based upon a good understanding of existing travel patterns and the location of the parking spaces assigned to residents of Ellwood House. Since the Braeside Avenue access points are the closest to the parking spaces, it is anticipated that most vehicle trips to and from Ellwood House will pass through the two Braeside access points. The vehicle trips for both AM and PM peak hour were assigned as follows:

- Alta Vista Drive (Northernmost Access Point): 12.5%
- Alta Vista Drive (Southernmost Access Point): 12.5%
- Braeside Avenue (Ingress at North access and Egress at South access): 75%

The overall development-generated demand at the access points is shown in **Figure 3-1**.

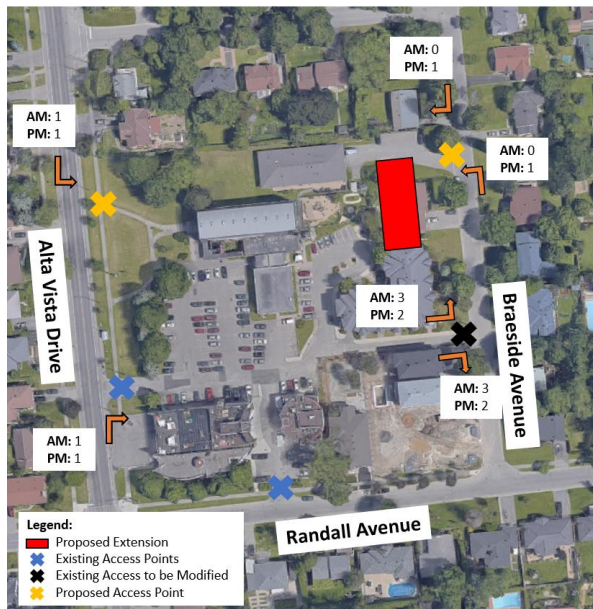


Figure 3-1. Vehicle Trips Generated by Development

3.2 BACKGROUND NETWORK TRAFFIC

Since the Trip Generation Trigger was not satisfied and the Network Analysis component of this TIA study is exempted, background network traffic considerations have not been reviewed.

3.3 DEMAND RATIONALIZATION

Since the Trip Generation Trigger was not satisfied and the Network Analysis component of this TIA study is exempted, the future capacity issues at nearby intersections is studied is not considered in detail. However, a cursory review of the impact of this development to traffic operations on Alta Vista Drive was completed.

As part of the 2008 Transportation Master Plan, the City of Ottawa conducted a Road Infrastructure Needs Study. Within that analysis the assumed capacity at the Smyth/Hydro Screenline and Alta Vista Drive is 600 veh/hour per lane per direction. Given the proximity to the Alta Vista/Randall intersection and the similar cross-section on Alta Vista Drive, it can be assumed that the capacity is similar.

A traffic count from November 2018 indicated the following through volumes on Alta Vista Drive, north of the Alta Vista/ Randall intersection:

- AM Peak Hour (Northbound): 506
- AM Peak Hour (Southbound): 416
- PM Peak Hour (Northbound): 454
- PM Peak Hour (Southbound): 602

From the 2018 traffic counts, the southbound PM peak hour volumes are already exceeding the assumed lane capacity of 600 veh/h. However, as shown in **Section 3.1.3**, most vehicle trips generated are expected to enter and exit via the Braeside Avenue accesses with only one or two vehicles expected to use the Alta Vista Drive accesses.

4 STRATEGY

4.1 DEVELOPMENT DESIGN

4.1.1 DESIGN FOR SUSTAINABLE MODES

The TDM-supportive Development Design and Infrastructure Checklist includes two checklists, one for non-residential developments, and one for residential developments. The residential development checklist was completed to assess the opportunity to implement facilities that are supportive of sustainable modes. The completed checklist is attached as **Appendix E**.

Sustainable modes include cycling, walking and transit. As indicated in the checklist and shown on the proposed site plan, the proposed development accommodates cycling by providing the necessary bicycle parking and accommodates walking by providing safe and direct pedestrian access from Braeside Avenue and the internal parking lot. The bicycle parking is placed throughout the shared site with available bicycle parking spaces located at the Ellwood House entrance and also in close proximity to the church.

There are sidewalks within the internal parking lot that will allow pedestrians attempting to access transit facilities the ability to access the sidewalks along Alta Vista Drive or Randall Avenue. Most notably, the sidewalk along the north side of the St. Thomas Church connects to the accessible concrete walkway leading to Alta Vista Drive and nearby transit that was previously identified in Section 2.3.4. Pedestrians would still require to briefly cross through the parking lot, but most of their trip to the Alta Vista Drive sidewalk would be separated from vehicles.

Similarly, the access to the Randall Avenue sidewalk requires pedestrians to cross the parking lot for a short distance where a sidewalk is not provided. Therefore, while the pedestrian access is short and direct to the transit stations, additional support could be provided within the internal parking lot or a sidewalk could be provided along Braeside Avenue to connect to the Randall Avenue sidewalk.

4.1.2 CIRCULATION AND ACCESS

The proposed site plan (**Appendix C**) provides a continuous drive movement between the three access points within the shared parking lot for maintenance vehicles that require reverse maneuvering. The site circulation was assessed using AutoTURN 11.0 to confirm suitability of the layout for a variety of design vehicles. The results are provided in the following table and the AutoTURN swept paths are provided in **Appendix F**.

Table 4-1. Swept Path Assessment

| DESIGN VEHICLE | VEHICLE REPRESENTING | FINDINGS |
|----------------|-----------------------------------|--|
| HSU (TAC 2017) | Municipal Services/ Waste Removal | Circulation: HSU vehicles are able to enter and exit through the existing Alta Vista Drive access. MSUs are preferred. Access to Loading Dock: HSU vehicle can approach area but is not capable of fully backing into the location where the location of the potential future garbage room extension. This is unchanged from existing conditions. |

The swept path assessment indicates that the heavy single unit design vehicles will have difficulty turning into the new proposed access on Alta Vista Drive. It is recommended that this entrance be signed as a No Truck entrance with larger vehicles circulating through the site using the existing south entrance on Alta Vista Drive. Both Braeside

accesses are not considered since they have limited access (ingress only for north access and egress only for south access) and the parking lot geometry does not allow a HSU to access the loading dock.

4.1.3 NEW STREET NETWORKS

This section was exempted in the Transportation Impact Assessment Scoping Report submitted on October 13, 2021 and approved by the City of Ottawa on October 13, 2021. The approved exemption table is found in **Section 2.8**.

4.2 PARKING

4.2.1 PARKING SUPPLY

The proposed development parking requirements, based on its location, will be assessed in accordance with the Outer Urban/Inner Suburban Area (Area 'B') for minimum parking requirements as part of Schedule 1A to the City of Ottawa's Zoning By-Law 2008-250.

The minimum parking supply requirements for this development compared with the proposed parking supply are highlighted in **Table 4-2** and **Table 4-3**. Note that since the parking lot for all users of St. Thomas Church & School, Braeside House, and Ellwood House is shared, the parking spaces have been redistributed to meet the By-Law requirements.

Table 4-2. Minimum By-Law Requirements for Vehicular Parking and Proposed Parking Supply

| TYPE | REQUIRED | CALCULATION | SITE PLAN | COMPLIANCE WITH BY-LAW |
|-----------------------------------|------------|--|------------|---|
| Vehicle – St. Thomas Church | 103 | 10 spaces * 100m ² of gross floor area of assembly areas (1,027 m ²) | 103 | Meets the minimum requirements of the Zoning By-Law |
| Vehicle – St. Thomas Nursery | 6 | 2 spaces * 100m ² of gross floor area (284.7 m ²) | 6 | Meets the minimum requirements of the Zoning By-Law |
| Vehicle – Braeside House | 3 | 1 space * 100m ² of gross floor area (342.6 m ²) | 4 | Exceeds the minimum requirements of the Zoning By-Law |
| Vehicle – Ellwood House | 8 | 0.25 spaces per dwelling units (30 dwelling units) | 18 | Meets the minimum requirements of the Zoning By-Law |
| Vehicle – Ellwood House Extension | 10 | 0.25 spaces per dwelling units (38 dwelling units) | | |
| Total | 130 | | 131 | |

Table 4-3. Minimum By-Law Requirements for Bicycle Parking and Proposed Parking Supply

| TYPE | REQUIRED | CALCULATION | SITE PLAN | COMPLIANCE WITH BY-LAW |
|--|-----------|---|-----------|---|
| Bicycle – St. Thomas Nursery | 1 | 1 spaces * 250m ² of gross floor area (284.7 m ²) | 21 | Meets the minimum requirements of the Zoning By-Law |
| Bicycle – Braeside House | 2 | 0.25 space per dwelling unit (8 dwelling units) | | |
| Bicycle – Ellwood House | 8 | 0.25 spaces per dwelling units (30 dwelling units) | | |
| Bicycle – Ellwood House Extension | 10 | 0.25 spaces per dwelling units (38 dwelling units) | | |
| Total | 21 | | 21 | |

4.2.2 SPILLOVER PARKING

This section was exempted in the Transportation Impact Assessment Scoping Report submitted on October 13, 2021 and approved by the City of Ottawa on October 13, 2021. The approved exemption table is found in **Section 2.8**.

4.3 BOUNDARY STREETS

4.3.1 ALTA VISTA DRIVE

Alta Vista Drive is a major collector road with an existing 30-metre protected right-of-way in the study area adjacent to the proposed development site. The existing cross-section (**Figure 4-1**) includes a paved area approximately 11m wide with sidewalks in each direction with no median. The right-of-way allocation exceeds the minimum width requirement of 22m for a neighborhood collector street as per the City of Ottawa’s Designing Neighborhood Collector Streets (2019) document.



Figure 4-1. Alta Vista Drive - Existing Cross-Section

4.3.1.1 MOBILITY

The segment of Alta Vista Drive within the study area is identified as a General Urban Area in the City of Ottawa’s Official Plan (2013), Schedule B (Urban Policy Plan). The development is not proposing any changes to the boundary street. The resulting MMLOS targets and scores are indicated in **Table 4-4**, including the MMLOS for the Alta Vista Functional Design in within this segment. The MMLOS targets are based on a policy area within 300m of a school due to its proximity to Alta Vista Public School. The MMLOS calculation sheet can be found in **Appendix G**.

Table 4-4. Segment MMLOS - Alta Vista Drive

| | PLOS | BLOS | TLOS | TKLOS | VLOS |
|-------------------|------|------|------|-------|--------------------------------|
| Target | A | B | D | - | VLOS Not Reported for Segments |
| Status Quo | C | B | D | - | |
| Functional Design | C | A | D | - | |

The PLOS ‘A’ is not achieved in the status quo, largely due to the roadway segment having an AADT greater than 3,000 and posted/operating speed of 50 km/h. The functional design will not improve the PLOS for the segment. With the implementation of the separated cycling facility however, the BLOS will improve from ‘B’ to ‘A’, a higher level than the target.

4.3.1.2 SAFETY

Historical crash records for the study area were obtained from the City of Ottawa for the five years between January 2015 and December 2019. The TIA Guidelines indicate that patterns with six or more crashes should be identified. In

this timeframe, there were three collisions along the roadway segment on Alta Vista Drive, and thus do not meet the TIA Guideline criteria.

4.3.2 BRAESIDE AVENUE

Braeside Avenue is a local road with an existing 20-metre protected right-of-way in the study area adjacent to the proposed development site. The existing cross-section (**Figure 4-2**) includes a paved area approximately 8m with no sidewalks or bicycle lanes. The right-of-way allocation does not meet the minimum width requirement of 22m for a neighborhood collector street as per the City of Ottawa’s Designing Neighborhood Collector Streets (2019) document.



Figure 4-2. Braeside Avenue - Existing Cross-Section

4.3.2.1 MOBILITY

The segment of Braeside Avenue within the study area is identified as a General Urban Area in the City of Ottawa’s Official Plan (2013), Schedule B (Urban Policy Plan). The development is not proposing any changes to the boundary street. The resulting MMLOS targets and scores are indicated in **Table 4-5**.

Table 4-5. Segment MMLOS - Braeside Avenue

| | PLOS | BLOS | TLOS | TKLOS | VLOS |
|------------|----------|------|------|-------|--------------------------------|
| Target | A | D | - | - | VLOS Not Reported for Segments |
| Status Quo | F | B | - | - | |

The PLOS ‘A’ is not achieved, in part, because there is no sidewalk and the operating speed along Braeside Avenue is 50 km/h. A PLOS ‘A’ could be attained with the implementation of a 1.8m sidewalk and a 2m boulevard.

4.3.2.2 SAFETY

Historical crash records for the study area were obtained from the City of Ottawa for the five years between January 2015 and December 2019. The TIA Guidelines indicate that patterns with six or more crashes should be identified. In this timeframe, there were no collisions along the roadway segment on Braeside Avenue, and thus do not meet the TIA Guideline criteria.

4.4 ACCESS INTERSECTION

4.4.1 LOCATION AND DESIGN OF ACCESS

There are three new access points proposed for this development and are indicated in the Site Plan (**Appendix C**), one on Alta Vista Drive and two on Braeside Avenue. The Alta Vista Drive entrance is proposed as full movement, whereas the Braeside Avenue entrances are ingress only (north) and egress only (south).

A design compliance check was carried out for each of the two accesses following guidelines prepared by the City of Ottawa and the Transportation Association of Canada's Geometric Design Guidelines for Canadian Roads (2017). The design compliance check is summarized in **Table 4-6**.

Table 4-6. Access Intersection Design Elements

| DESIGN ELEMENTS | MINIMUM REQUIRED | ALTA VISTA DRIVE (NEW) | BRAESIDE AVENUE (SOUTH) | BREAESIDE AVENUE (NORTH) |
|---|--|--|---|---|
| Access Type | - | Full Movement | Egress Only | Ingress Only |
| One-way vs. Two-way | <25 vpd = one-way driveway <750 vpd = two-way driveway | <40 peak hour trips ~400 daily trips Two-Way | <10peak hour trips ~100 daily trips One-Way | <10peak hour trips ~100 daily trips One-Way |
| Entrance Width | Two- Way: 2.0m -7.3m (TAC 2017) One-Way: 3.0m-4.3m (TAC 2017) | 6.9 m | 3.7m | 4.0 m |
| Corner Clearance | 70m to traffic signals (TAC 2017) | >70m | >70m | >70m |
| Right Turn Radius | 3.0 – 4.5m (TAC 2017) | 1.5m | 2.7m | 3.0m |
| Sight Distance (Intersection with No Control) | Left turn: 130m (TAC 2017) | No obstruction | No obstruction | No obstruction |
| | Right turn: 110m (TAC 2017) | No obstruction | No obstruction | No obstruction |
| Throat Length | 15m for Alta Vista 8m for Braeside (TAC 2017) | 19m | 40m | 30m |
| Angle of Intersection | At or near 90° | Access to parking lot at intersection is 90° | Access to parking lot at intersection is 90° | Access to parking lot at intersection is 90° |

| DESIGN ELEMENTS | MINIMUM REQUIRED | ALTA VISTA DRIVE (NEW) | BRAESIDE AVENUE (SOUTH) | BREAESIDE AVENUE (NORTH) |
|-----------------------------------|---|---|---|---|
| Proximity to Adjacent Driveways | 1m between driveways (TAC 2017) | Private driveway 15 m north of access | Private driveway 5 m south of access | Private driveway 5 m north of access |
| Pedestrian Crossing Consideration | Ottawa Standard Drawing SC7.1 (Curb Return Private Entrance - Unsignalized) | 6.9m pedestrian crossing Ottawa Standard SC7.1 (Curb Return at a Private Entrance) | 3.7m pedestrian crossing (No sidewalk on Braeside) | 4.0m pedestrian crossing (No sidewalk on Braeside) |
| Cycling Crossing Consideration | Large curb return radii with narrow driveway to minimize crossing distance | 10.5m cycling crossing | 6.1m cycling crossing | 7.3m cycling crossing |

Generally, the proposed accesses meet the current best practices and accepted design guidance apart from the right turn radius at both accesses. Right turn radii for Alta Vista Drive and Braeside Avenue (south) do not meet the minimum TAC requirement of 3.0m. As mentioned in **Section 4.1.2**, the heavy single unit design vehicle will have issues maneuvering this turn and as such, the recommendation was made to sign this access as ‘No Trucks’ with trucks continuing to use the south access from Alta Vista Drive. Additionally, access for trucks using either of the Braeside Avenue accesses is not feasible due to the geometry of the parking lot and location of the loading area.

The throat length of the existing Alta Vista access will be shortened from its current length of 19 m to 17.4 m but will remain greater than the minimum 15m requirement and does not have an impact on the design vehicles accessing the site.

The realigned Braeside Avenue access has a 2m offset from the adjacent property line, less than the recommended 3m. However, the bylaw includes an exemption where the offset can be minimized to 0.3 metres provided that the proposed access is located a safe distance from the access serving the adjacent property, adequate sightlines are provided, and the realigned access does not cause a traffic hazard. The safety review in **Section 4.3.2.2** identified no collisions on Braeside Avenue from 2015 to 2019; given the alignment and profile of the road (no bends or curves) a bylaw exemption should be feasible and will be pursued as required.

Lastly, the proposed site plan conflicts with the Alta Vista Functional Design Study (2022). More specifically, the new proposed driveway on Alta Vista Drive conflicts with the identified location of the relocated NB bus shelter. The location of the entrance has been developed in its current location so as to preserve and maximize public space (i.e., community gardens) and provide a more direct route to accessible parking. As the construction of the proposed development is expected before the Alta Vista Corridor Road Detailed Design, it is recommended that the final bus shelter location be identified during the Alta Vista Corridor Detailed Design in consultation with OC Transpo and City of Ottawa Planning Departments. A potential relocation (20-25m south of the proposed driveway) is illustrated in the sketch in **Figure 4-3**.



Figure 4-3: Potential Relocation of Bus Shelter

4.4.2 INTERSECTION CONTROL

An all-way stop minimum volume warrant for the minor road was conducted in accordance with the Ontario Traffic Manual (OTM) Book 5 for both proposed accesses under the future total planning horizon. Both of the following conditions must be met to warrant a stop at the two access points as illustrated in **Table 4-7**.

Table 4-7. All-Way Stop (Minor Road) Requirements

| CONDITION | FUTURE TOTAL PLANNING HORIZON | |
|--|--|---------------------------------------|
| | Alta Vista Drive | Braeside Avenue |
| Total vehicle volume on all intersection approaches exceeds 350 for the highest hour recorded | Estimated Volumes: AM >500 PM:>1000 | Estimated Volumes: AM <200 PM:<200 |
| Volume split does not exceed 75/25 for three-way control or 65/35 for four-way control. Volume is defined as vehicles only | Volume Splits: AM:95/5 PM: 95/5 | Volume Splits: AM:90/10 PM: 90/10 |

While the total vehicle volume is expected to exceed 350 for the highest hour recorded on Alta Vista Drive, the volume split is anticipated to greatly exceed 75/25 for a three-way control intersection. Similarly, the Braeside Avenue access is not expected to meet the necessary volume or volume split. Therefore, a stop control on the minor road was not warranted, and accordingly a traffic signal warrant was not analyzed.

For the Alta Vista entrance, pedestrian accommodations at the accesses should follow the City of Ottawa’s Standard Drawing SC7.1 for Curb Return Entrances utilizing the Private / Unsignalized entrance option which includes a continuous depressed sidewalk across the access as shown below.

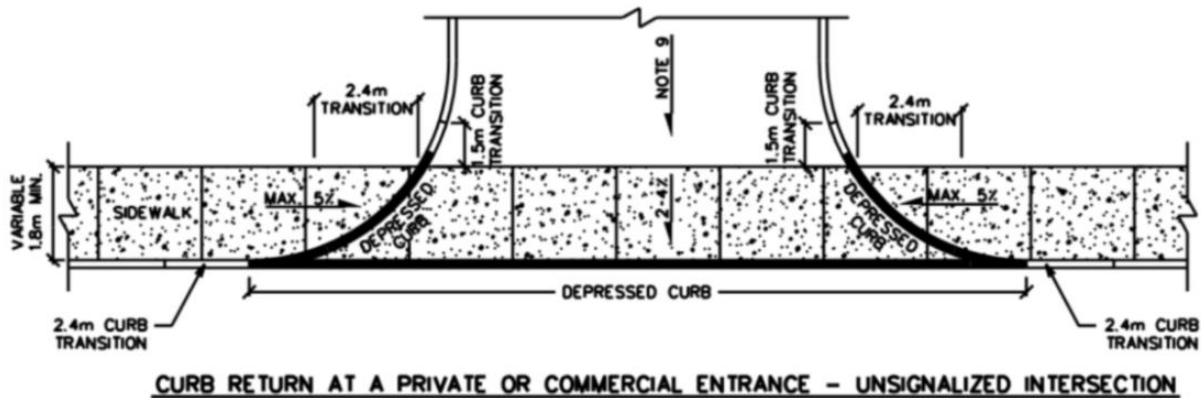


Figure 4-4. City of Ottawa, Standard Drawing SC 7.1 Curb Return Entrances, Private/Unsignalized (March 2017)

Signage options for the three driveways are provided below:

Braeside Avenue (both accesses): Wayfinding signage indicating that this is the entrance nearest the delivery truck entrance.

Alta Vista Drive: Signage indicating that no trucks shall enter from both the north and south entrances.

4.4.3 INTERSECTION DESIGN

The City of Ottawa’s Multi-modal Level of Service (MMLOS) Guidelines (2015) note that the intersection MMLOS evaluation does not apply to unsignalized intersections, The four driveway accesses are proposed to be or remain unsignalized and no further evaluation was completed.

4.5 TRANSPORTATION DEMAND MANAGEMENT

4.5.1 CONTEXT FOR TDM

Transportation Demand Management (TDM) describes a broad range of policies, programs and services designed to reduce the demand for vehicle use by influencing individual travel behaviour and providing expanded options. As mentioned in **Section 3.1.1**, the forecasted commuter mode share is: 38% auto driver, 33% transit, 17% auto passenger, 10% walking and 2% bicycle.

4.5.2 NEED AND OPPORTUNITY

With less than 10 vehicle trips expected from the proposed development during peak hours, limited impact should be anticipated to the existing road network.

4.5.3 TDM PROGRAM

The TDM-supportive Development Design and Infrastructure Checklist was completed to assess the opportunity to implement facilities that are supportive of sustainable modes. The completed checklist is attached to this report as **Appendix H**.

The sustainable mode share at the proposed development can be maximized by including the following TDM measures and amenities:

- Provide shuttle service for mall and/or supermarket runs
- Display relevant transit schedules at entrances
- Provide one monthly preloaded PRESTO card for new residents
- Display local area maps with walking/cycling access routes

4.6 NEIGHBOURHOOD TRAFFIC MANAGEMENT

This section was exempted in the Transportation Impact Assessment Scoping Report submitted on October 13, 2021 and approved by the City of Ottawa on October 13, 2021. The approved exemption table is found in **Section 2.8**.

4.7 TRANSIT

This section was exempted in the Transportation Impact Assessment Scoping Report submitted on October 13, 2021 and approved by the City of Ottawa on October 13, 2021. The approved exemption table is found in **Section 2.8**.

4.8 REVIEW OF NETWORK CONCEPT

This section was exempted in the Transportation Impact Assessment Scoping Report submitted on October 13, 2021 and approved by the City of Ottawa on October 13, 2021. The approved exemption table is found in **Section 2.8**.

4.9 INTERSECTION DESIGN

This section was exempted in the Transportation Impact Assessment Scoping Report submitted on October 13, 2021 and approved by the City of Ottawa on October 13, 2021. The approved exemption table is found in **Section 2.8**.

4.10 SUMMARY OF IMPROVEMENTS INDICATED AND MODIFICATION OPTIONS

A summary of transportation improvements proposed as part of this Transportation Impact Assessment are presented as follows:

Development Design

- a) Provisions for sustainable modes on-site have been identified through the development design checklist. The proposed site plan accommodates cycling by providing the necessary bicycle parking and walking by providing safe and direct pedestrian access from Braeside Avenue and the internal parking lot.
- b) Heavy vehicle (HSU) circulation on-site is proposed between the realigned Braeside Avenue driveway and the existing Alta Vista Drive access. It is proposed that the new north access on Alta Vista Drive be signed as No Truck Entry.

Reference: Section 4.1

Parking

- a) The proposed bicycle and vehicle parking satisfy the requirements of the Zoning By-Law (2008-250).

Reference: Section 4.2

Boundary Street Design

- a) There are no proposed changes to the cross-sections of Alta Vista Drive and Braeside Avenue adjacent to the proposed development.
- b) The status quo MMLOS assessment of Alta Vista Drive and Braeside Avenue resulted in the BLOS meeting the MMLOS targets for the General Urban policy area, while the PLOS did not achieve the target because of the narrow width of the existing sidewalks.

Reference: Section 4.3

Access Intersections

- a) **New Alta Vista Drive Access:** The access is proposed as full movement with unimpeded traffic flow along Alta Vista Drive. It provides access to Ellwood House via the connected parking lot with St. Thomas Church. Generally, the access design meets the minimum requirements provided by the TAC Geometric Design Guide for Canadian Roads, however the right turn radius may not easily accommodate the larger fleet vehicles and restricting truck access is recommended.
- b) **Realigned Braeside Avenue Accesses:** These accesses as ingress only (north access) or egress only (south access) with unimpeded traffic flow along Braeside Avenue and provides direct access to Ellwood House. Generally, the access design meets the minimum requirements provided by the TAC Geometric Design Guide for Canadian Roads, however the turning radius may not easily accommodate the larger fleet vehicles.

Reference: Section 4.4

Transportation Demand Management

- a) The existing road network has available capacity should the anticipated mode share targets not be met.

Reference: Section 4.5

APPENDIX

A CIRCULATION COMMENT / RESPONSE



COMMENT AND RESPONSE LOG

TO: File
FROM: Kimberley Hunton, P. Eng.
SUBJECT: 2262 Braeside Avenue Transportation Impact Assessment (current to February 9, 2023)
DATE: February 9, 2023

SCOPING REPORT COMMENT / RESPONSE

WSP Submission October 14, 2021
City Comments Received October 14, 2021

Section 2.8 Exemptions Review

- 1** Element 4.1.2. Clarify the rear lane delivery access needs to indicate how it is intended to function. Truck turning templates for municipal services as well as deliveries will also be required.
Will be included in Strategy Report.
- 2** Element 4.2.1. Provide a table indicating the required parking to meet the zoning by-law and the proposed number of parking spaces.
Will be included in Strategy Report.
- 3** Although the number of forecasted person trips may be less than 60, include Module 4.5 for the residential component. For example, ensuring that bicycle parking is appropriately placed and easily accessed will support this mode share. Include Module 4.5 - TDM Measures. For additional assistance with TDM strategies, contact Kathleen.Wilker@ottawa.ca
Will be included in Strategy Report.

Next Steps

- 4** **Please proceed to the forecasting report.**
Thank you. Forecasting and Strategy Report completed and submitted for comment on October 25 2021.
-

FORECASTING AND STRATEGY REPORT COMMENT / RESPONSE

WSP Submission October 25, 2021
City Comments Received February 2, 2022

Section 4.1 Development Design

- 1 In Section 4.1.1 of the report, please elaborate on the available transit facilities and the distances from the development to these facilities. Ensure that the site plan and report reflect the correct amount of ZBL parking spaces required.
Information on the available transit facilities is presented in Section 2.3.4 of the TIA Final Report. The site plan and Section 4.2.1 provide information on the ZBL parking spaces required. Additional clarification was provided in the Section 4.1.1.
- 2 Please describe the anticipated path of travel for pedestrians between the development and transit service on Alta Vista, and how this has been considered as part of a design for sustainable modes. Please describe if there are any opportunities to improve/ provide dedicated pedestrian facilities between the proposed building extension and transit stops on Alta Vista through the site (2262-2270 Braeside/ 2345 Alta Vista).
Pedestrians must choose to either walk within the internal parking lot, which does provide some sidewalk or on the street on Braeside Avenue to access either the Alta Vista Drive or Randall Avenue sidewalks. Additional text was added to the TIA Final Report in Section 4.1.1 and Appendix E (Development Design and Infrastructure Checklist).
- 3 Confirm that the proposed site plan does not conflict with the approved Alta Vista Functional Design Study
The proposed site plan does conflict with the Alta Vista Functional Design Study. More specifically, the proposed driveway on Alta Vista Drive conflicts with the location of the relocated NB bus shelter. The location of the entrance has been developed in its current location so as to preserve and maximize public space (i.e. community gardens) and provide more direct access to accessible parking. Given the construction of the proposed development is expected before the Alta Vista Corridor Road Detailed Design, it is recommended that the final bus shelter location be identified during the Alta Vista Corridor Detailed Design in consultation with OC Transpo (e.g. south of the proposed driveway).

Section 4.3 Boundary Streets

- 4 Due to the nearby Alta Vista Public School, Tables 4-4 and 4-5 should reflect the associated enhanced MMLOS targets (please refer to Exhibit 22 of the MMLOS Guidelines). Also, please provide the MMLOS calculations. For instance, Alta Vista Drive may have a PLOS value that is worse than 'D'.
Updated tables and appendix will be provided in TIA Final Report.

Section 4.4 Access Intersections

- 5 The realigned Braeside Avenue access is less than 3m away from the adjacent property line. This does not conform to section 25.1.p of the PABL and if accepted would require a bylaw exemption.
The bylaw includes an exemption where the offset can be minimized to 0.3 meters provided that the proposed access is located a safe distance from the access serving the adjacent property, adequate sightlines are provided and does not create a traffic hazard. The current plan shows a 2-meter offset. The safety review in Section 4.3.2.2 of the TIA Final Report indicates that there were no collisions on Braeside Avenue from 2015 to 2019 and given the geometric layout of the road (no bends or curves) a bylaw exemption should be feasible and will be pursued as required.
- 6 Please provide slope of accesses. Note that as per section 25.1.u of the Private Approach By-Law, the slopes should not exceed 2% for a distance of 9 metres from the street line.

Additional details will be provided in updated Site Plan.

Section 4.5 Transportation Demand Management

- 7 Please provide additional TDM measures to help reduce dependency on vehicles. For instance, to encourage transit usage, providing a prepaid Presto pass is a proven tool.
Since the Ellwood House extension provides additional housing for independent seniors (who may be less mobile) and that the future mode share (Table 3-4) for auto driver is expected to only be 38%, there are limited opportunities for additional TDM measures. With that said, a monthly Presto card option for new residents was added to Section 4.5.3 and the TDM Checklist (Appendix H) of the TIA Final Report.

Additional Comments

- 8 Transit Services - Section 2.3.4:
- a Route 44 operates between Hurdman Station and Billings Bridge Station.
Noted and updated in the TIA Final Report.
 - b Route 44 is a 'Frequent' route that operates on a 15-minute frequency during most time periods of the day.
Noted and updated in the TIA Final Report.
 - c Route 44 services stops on Alta Vista, not Route 46.
Noted and updated in the TIA Final Report.
 - d Figure 2-3 highlights bus stops, not routes.
Noted and updated in the TIA Final Report

FINAL REPORT COMMENTS

WSP Submission July 25, 2022

City Comments Received October 24, 2022

Section 2.3.1 Roadways and Pedestrians / Cycling Facilities

- 1 The legend of Figure 2-2 has an error: yellow lines are sidewalks, and red lines are cycling facilities
The figure has been updated in Section 2.3.1 of the TIA Final Report with the revised legend.

Section 2.4.1 Changes to the Study Area Transportation Network

- 2 Discuss the changes proposed by the Alta Vista Drive Functional Design Study (<https://ottawa.ca/en/city-hall/public-engagement/projects/alta-vista-drive-functional-design-study>).

Alta Vista Drive Functional Design Study | City of Ottawa

City of Ottawa is commencing a study to develop a functional road design for Alta Vista Drive between Faircrest Road and Edge Hill Place. Aging underground utilities such as sewers and watermains, from Billings Avenue to Kilborn Avenue and Wesmar Drive to Edge Hill Place, require renewal in the short to medium term, respectively. The section of Alta Vista Drive north of the Ellwood House site, from Billings Avenue to Kilborn Avenue is scheduled for reconstruction in approximately 3-6 years. Timing of the segment adjacent to the Ellwood House site, from Kilborn Avenue to Wesmar Drive, is unknown.

Information about the Alta Vista Drive Functional Design Study has been included in Section 2.4.1 of the TIA Final Report.

- 3 Note that the approved Alta Vista Drive Functional Design Study proposes relocating northbound Bus Stop ID: 7180 further north – to a location approximately 125m north of Randall Avenue. The development’s proposed new access to Alta Vista Drive conflicts with this approved relocation of Bus Stop ID: 7180. Section 4.4.1 must address this conflict. Document the Appendix A response to this issue in Section 4.4.1 of the report, including details on where the proponent proposes to relocate Bus Stop ID: 7180. Consider the potential to remove the new Alta Vista Drive access from the plans.

The new Alta Vista Drive access is necessary to provide the parking required by the different campus uses and provide adequate circulation within the shared parking lot. The location of the bus shelter could be shifted south by an estimated 20-25 m with the bike lane bumping in earlier than currently proposed as shown in the below sketch. Suggestion for this consideration in consultation with OC Transpo and City of Ottawa Planning is proposed. This response was documented in Section 4.4.1 of the TIA Final Report.



Section 4.1.1 Design for Sustainable Modes

- 4 Transportation Engineering Services concurs that the proposed site plan and parking lot reconfiguration lacks sidewalk connectivity internally and between the site and boundary streets. For example:
 - i. No direct/accessible route between Ellwood House and existing location of Bus Stop ID: 7180. Currently, between the existing Ellwood House and the bus shelter on Alta Vista, there is a grade difference of approximately 1m and a distance of 120 meters. The existing pedestrian access from Ellwood House to Alta Vista will be improved by the reorganization, regrading and repaving of the existing parking lot, and the addition of a direct sidewalk connection north of the church. The significant grade change between Braeside Avenue and Alta Vista Drive does not allow for this new route to be an accessible route, as stairs are required to make up the grade. Senior residents of Ellwood House with mobility challenges rely on Para Transpo.
 - ii. No connection to the existing north-south sidewalk on the east side of Ottawa Fire Station 35 that connects to Randall Avenue. Ellwood House does not own this property or have a right-of-way over it. Walking through a “fire-station” parking lot would present some significant safety issues for the senior residents of Ellwood House.
 - iii. The new (northern) access to Braeside Avenue does not include a sidewalk.

Currently, the residents of Braeside House walk through a parking lot with two-way traffic to Braeside Avenue. This situation has been improved by removing the parking spaces and replacing the two-way traffic with a one-way access from Braeside Avenue. It should be noted that the Alta Vista community insisted that the substantial hedge along the northerly property line be maintained.

- 5 The site plan and parking lot design should be revisited to prioritize design for sustainable modes, with potential discussions required on a reduction in the motor vehicle parking space provision.
Currently, the site accommodates one more parking space than is required by the Zoning By-law, including a substantial number of barrier free parking spaces. The St. Thomas the Apostle Church accommodates a number of uses including the Parish, Parish offices and meeting rooms, a daycare, Braeside House and Ellwood House which functionally require the number of parking spaces provided.
- 6 Section 4.1.1 should include a discussion of the location and design of bicycle parking
The bicycle parking is placed throughout the shared site. There will be available parking at the Ellwood House entrance, but also near the church. Section 4.1.1 of the TIA Final Report will be updated to include this detail.
- 7 TDM-Supportive Design & Infrastructure Measures Checklist:
 - i. Measure 1.1.1 should not be marked as “completed”, because Parking Lot 5 has been added between St. Thomas the Apostle Church and Alta Vista Drive.
 - ii. Measure 1.2.2 should not be marked as “completed” but is required.
 - iii. Measure 1.2.4 should not be marked as “completed”, because many sidewalks do not have accessible crossings of vehicular routes. For example, there is no accessible crossing of the drive aisle between Ellwood House and St. Thomas the Apostle Church. Measure 1.2.4 is required.
 - iv. Measure 1.2.5 is not completed but is required.
 - v. Measure 1.2.6 is not completed.
 - vi. Measure 2.1.4 should not be marked as “completed”, because no assessment has been completed to prove that the number of bicycle parking spaces provided is equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists.

Measures 1.1.1, 1.2.6 and 2.1.4 (all Basic requirements) have been updated to not be marked as “completed”.

The design team for the proposed development has held several discussions and brainstorm sessions to address the three required measures (1.2.2, 1.2.4 and 1.2.5). Given the existing conditions, the site layout limits the pedestrian and cycling connections within the parking lot. As stated in response to previous comments, the Alta Vista Drive bus stop is greater than 100 m (330 ft) from the Ellwood House entrance. While many residents have private vehicles, those that rely on transit could walk to the Alta Vista Drive bus stop. If residents have mobility challenges, they would more likely use Para Transpo.

Additionally, the sidewalk along the northside of the church provides safe pedestrian access for any resident walking to Alta Vista Drive. While it does require residents to cross the parking lot, given that the parking lot is shared with a church and school, it is not anticipated that there would be significant continuous traffic circulation within the parking lot. Signage could be added in the parking lot to advise drivers of residents/seniors in the parking lot, encourage cautious driving and provide the pedestrians with the right-of-way.

Section 4.3 Boundary Streets

- 8 Evaluate the future MMLOS of the Alta Vista Drive boundary street based on the Alta Vista Drive Functional Design Study
Future segment MMLOS will be included based on the Alta Vista Drive Functional Design Study



Section 4.4.1 Location and Design of Access

- 9** The Braeside Avenue (north) access is less than 3m away from the adjacent property line. Document the Appendix A response to this issue in Section 4.4.1 of the report. Transportation Engineering Services concurs with the Appendix A response that the off-set may be reduced to 2-metres offset as the proposed access “is located a safe distance from the access serving the adjacent property, adequate sightlines are provided and does not create a traffic hazard”.

Comment from Appendix A will be include in Section 4.4.1 of the TIA Final Report (p. 19)

- 10** Discuss the throat length requirements/provision of the existing Alta Vista Drive (southern) access. The new parking lot configuration reduces this throat length of this access.

The throat length at the existing Alta Vista Drive access will be shortened, but at 17.4 m it will remain greater than the minimum 15m requirement and turning movements will still be accommodated. Text will be added in Section 4.4.1 of the Final TIA.

Prepared by:

Kimberley Hunton, P. Eng.
Project Manager, Transportation Planning

APPENDIX

B

SCREENING
FORM

City of Ottawa 2017 TIA Guidelines Screening Form

1. Description of Proposed Development

| | |
|------------------------------------|--|
| Municipal Address | 2262 Braeside Avenue - Ellwood House Extension |
| Description of Location | Located on the west side of Braeside Ave. south of Clontarf Ave. |
| Land Use Classification | 3.5-storey retirement home |
| Development Size (units) | 38 residential units |
| Development Size (m ²) | 2,375 (building gross area - including basement) |
| Number of Accesses and Locations | One realigned access on Braeside Avenue (NE corner of site)* |
| Phase of Development | Single Phase |
| Buildout Year | N/A |

If available, please attach a sketch of the development or site plan to this form.

2. Trip Generation Trigger

Considering the Development's Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

| Land Use Type | Minimum Development Size |
|-------------------------------------|--------------------------|
| Single-family homes | 40 units |
| Townhomes or apartments | 90 units |
| Office | 3,500 m ² |
| Industrial | 5,000 m ² |
| Fast-food restaurant or coffee shop | 100 m ² |
| Destination retail | 1,000 m ² |
| Gas station or convenience market | 75 m ² |

** If the development has a land use type other than what is presented in the table above, estimates of person-trip generation may be made based on average trip generation characteristics represented in the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.*

If the proposed development size is greater than the sizes identified above, the Trip Generation Trigger is satisfied.

38 residential units (ITE 252)
 Estimated <20 peak hour vehicle trips



3. Location Triggers

| | Yes | No |
|--|-----|----|
| Does the development propose a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit or Spine Bicycle Networks? | | X |
| Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?* | | X |

*DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).

If any of the above questions were answered with 'Yes,' the Location Trigger is satisfied.

4. Safety Triggers

| | Yes | No |
|---|-----|----|
| Are posted speed limits on a boundary street are 80 km/hr or greater? | | X |
| Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway? | | X |
| Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)? | | X |
| Is the proposed driveway within auxiliary lanes of an intersection? | | X |
| Does the proposed driveway make use of an existing median break that serves an existing site? | | X |
| Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development? | | X |
| Does the development include a drive-thru facility? | | X |

If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.

5. Summary

| | Yes | No |
|---|-----|----|
| Does the development satisfy the Trip Generation Trigger? | | X |
| Does the development satisfy the Location Trigger? | | X |
| Does the development satisfy the Safety Trigger? | | X |

If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).

* It is our understanding that the potential entrance from Alta Vista Drive to parking lot 5 is to be a separate project to potentially provide contingency parking for existing uses. If considered as part of this site plan application, then the entrance would satisfy the location and safety triggers.



Certification Form for TIA Study PM

TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

CERTIFICATION

- I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
- I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
- I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
- I am either a licensed¹ or registered² professional in good standing, whose field of expertise
is either transportation engineering
 or transportation planning .

^{1,2} License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

0000 Braeside
Aug 12-2021
S. McDonald WSP

Dated at Ottawa this 12 day of August, 2021.
(City)

Name: Sarah McDonald

Professional title: Project Manager, Transportation Planning

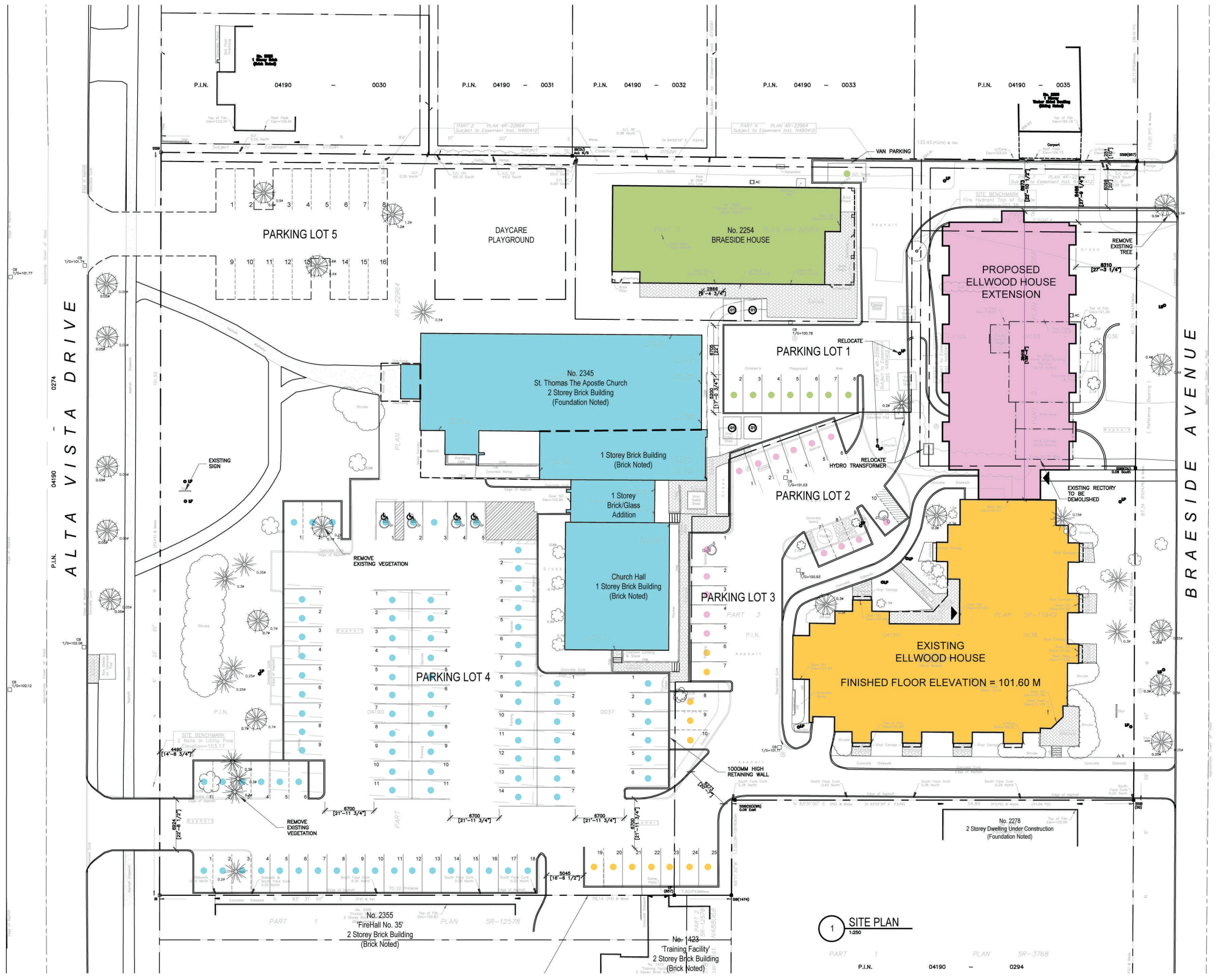
S. McDonald

Signature of individual certifier that s/he meets the above criteria

| | |
|--|-----------------------------------|
| Office Contact Information (Please Print) | |
| Address: | <u>2611 Queensview, Suite 300</u> |
| City / Postal Code: | <u>Ottawa K2B 8K2</u> |
| Telephone / Extension: | <u>613-690-1178</u> |
| E-Mail Address: | <u>sarah.mcdonald@wsp.com</u> |

Stamp





DEVELOPMENT INFORMATION:

ZONING:
11A (1485)

UNITS:

29x TYPE A
1 BDRM UNIT
47.26 M² / 508.7 FT² (NET)

5x TYPE B
1 BDRM BARRIER FREE
47.28 M² / 508.9 FT² (NET)

4x TYPE C
1 BDRM
44.6 M² / 479.9 FT² (NET)

38 IN TOTAL

BUILDING GROSS AREA:
(INCLUDING BASEMENT)
2,375 M² / 26,476 FT² (NET)

COMMON AREAS (GFA)
479 M² / 5,156 FT² (NET)

EFFICIENCY:
80%

PARKING INFORMATION:

NUMBER OF PARKING SPACES:
PARKING LOT 1: 8
PARKING LOT 2: 10
PARKING LOT 3: 10
PARKING LOT 4: 97
PARKING LOT 5: 16 (POSSIBLE PARKING AREA)

LINE DENOTES:

EXISTING PARKING SPACES: 105

PROPOSED PARKING SPACES: 36

IN TOTAL: 125 (6 BARRIER FREE)
(EXCLUDING PARKING LOT 5)

| PROPERTY | PARKING REQUIRED | PARKING PROVIDED |
|-------------------------|------------------|---------------------------|
| ELLWOOD HOUSE | 12 | 12 (INCLUDING 4 VISITORS) |
| ELLWOOD HOUSE EXTENSION | 15 | 15 (INCLUDING 5 VISITORS) |
| BRAESIDE HOUSE | | 8 |
| CHURCH | | 90 |

DRAWING NOTES:

Ⓢ RELOCATED SHEDS

COLIZZA BRUNI
architecture

76 CHAMBERLAIN AVE • OTTAWA • ONTARIO • K1S 1V9
T 613.236.2944 • F 613.236.6777 • www.colizzabruni.com

PROJECT NAME
ELLWOOD HOUSE
EXTENSION

OTTAWA, ON

DRAWING TITLE
SITE PLAN

SCALE
AS NOTED

DRAWN BY

DATE
6/25/21

PROJECT NO.
#00116

DRAWING NO.
SP1

1 SITE PLAN
1:250

P.L.N. 04190 - 0294 PLAN 5R-3768

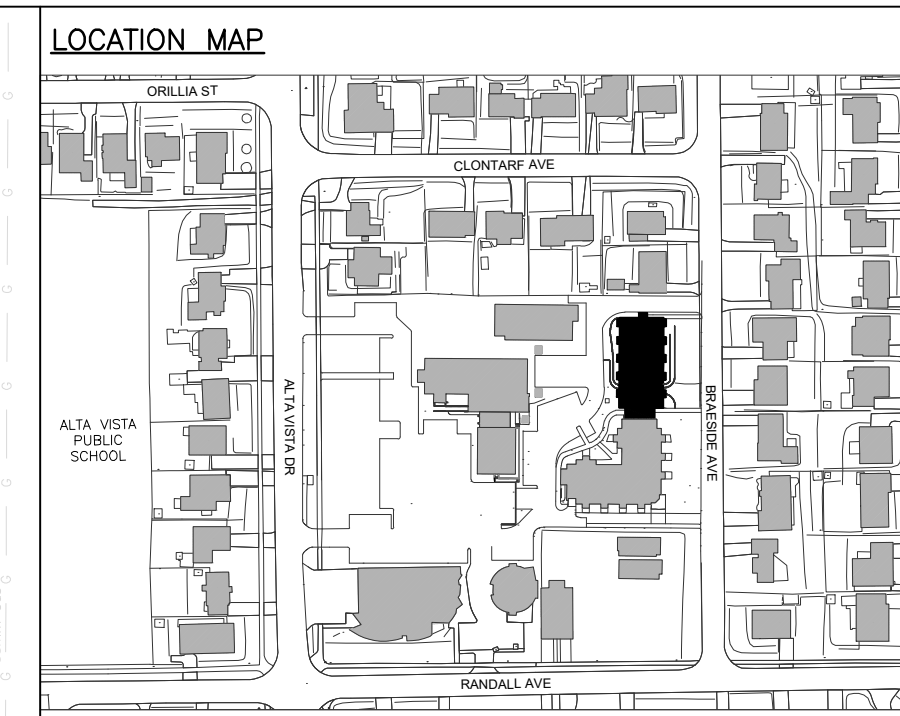
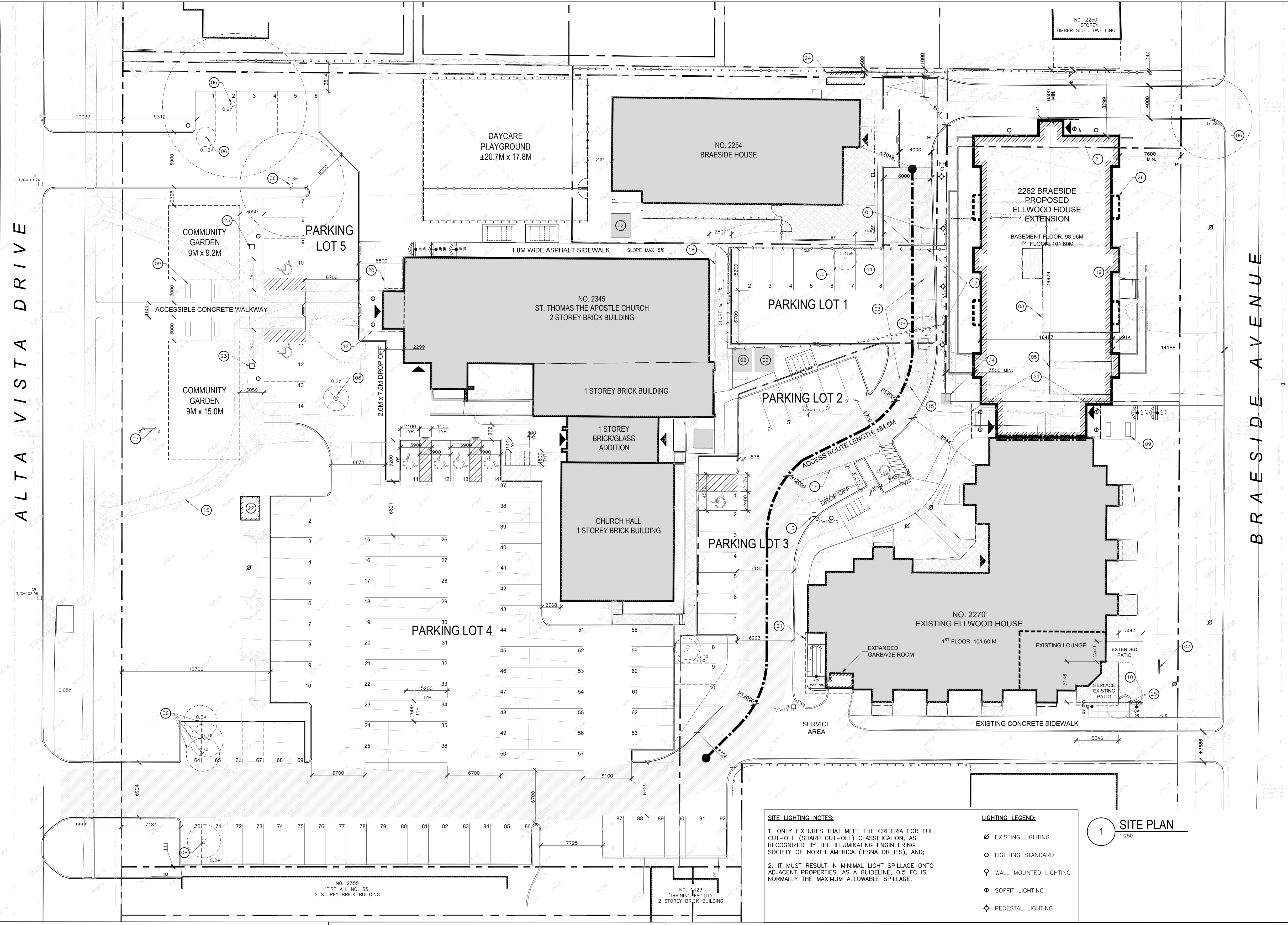
APPENDIX

C DRAFT SITE PLAN



ALTA VISTA DRIVE

BRAESIDE AVENUE



CONTACT LIST:

OWNER
ELLWOOD HOUSE LTD.
2270 BRAESIDE AVENUE
OTTAWA, ON K1H 7J7
613-521-5151

DEVELOPMENT CONSULTANT
CENTRETOWN CITIZENS OTTAWA CORPORATION (CCOC)
415 GILMOUR STREET, SUITE 200
OTTAWA, ON K2P 2M8
613-234-4065

PLANNER
WSP INC.
2611 QUEENSWIEW DRIVE
OTTAWA, ON K2B 8K2
613-829-2800

ARCHITECT
COLIZZA BRUNI ARCHITECTURE INC.
76 CHAMBERLAIN AVENUE
OTTAWA, ON K1S 1V9
613-236-2944

LANDSCAPE ARCHITECT
STUDIO RED LANDSCAPE ARCHITECTURE INC.
76 CHAMBERLAIN AVENUE
OTTAWA, ON K1S 1V9
613-866-4551

STRUCTURAL ENGINEER
D+M STRUCTURAL ENGINEERING LTD.
120-17 ABERDEEN STREET
OTTAWA, ON K1S 3J5
613-651-9490

MECHANICAL/ELECTRICAL ENGINEER
COSMEL CORP.
175 GREYER BOULEVARD, SUITE 105
GATINEAU, QC JBT 6Z6
819-205-3283

SURVEYOR
FARLEY, SMITH & DENIS SURVEYING LTD.
190 COLONNADE ROAD
OTTAWA, ON K2E 7J5
613-727-8226

SURVEY INFORMATION
PART OF BLOCK N
REGISTERED PLAN 552
CITY OF OTTAWA

GENERAL NOTES

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY ERRORS AND OMISSIONS TO THE ARCHITECT. ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS. DO NOT SCALE DRAWING. THESE DRAWINGS MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF COLIZZA BRUNI ARCHITECTURE INCORPORATED.

DEVELOPMENT INFORMATION:

ZONING:
I1A (1485)

UNITS:
28x TYPE A
1 BDRM UNIT
(NET) 47.26 M² / 508.7 FT²

6x TYPE B
1 BDRM BARRIER FREE
(NET) 47.28 M² / 508.9 FT²

4x TYPE C
1 BDRM
(NET) 44.6 M² / 479.9 FT²

38 IN TOTAL

BUILDING FOOTPRINT AREA:
628.9 M² / 6,769 FT²

BUILDING GROSS AREA:
(INCLUDING BASEMENT)
2,459 M² / 26,476 FT² (NET)

COMMON AREAS (GFA)
479 M² / 5,156 FT² (NET)

EFFICIENCY:
80%

PARKING INFORMATION:

NUMBER OF PARKING SPACES AT 2.6M x 5.2M:
REQUIRED: 130
PROVIDED: 131 (8 BARRIER FREE)

LINE DENOTES:
--- EXISTING PARKING SPACES: 104
- - - PROPOSED PARKING SPACES: 27

NUMBER OF BICYCLE PARKING AT 0.6M x 1.8M:
REQUIRED: 21
PROVIDED: 21

OUTDOOR AMENITY AREAS:

REQUIRED MIN. TOTAL AMENITY: 228 M²
PROPOSED AMENITY AREAS:
COMMUNITY GARDENS: 217.8 M²
EXISTING PATIO: 20.87 M²
PROPOSED PATIO: 27.89 M²
IN TOTAL: 266.56 M²

PERCENTAGE OF TOTAL SITE OCCUPIED BY VEGETATION AND LANDSCAPING:
4.3%

SITE LIGHTING NOTES:

- ONLY FIXTURES THAT MEET THE CRITERIA FOR FULL CUT-OFF (SHARP CUT-OFF) CLASSIFICATION, AS RECOGNIZED BY THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA OR IES), AND;
- IT MUST RESULT IN MINIMAL LIGHT SPILLAGE ONTO ADJACENT PROPERTIES, AS A GUIDELINE, 0.5 FC IS NORMALLY THE MAXIMUM ALLOWABLE SPILLAGE.

LIGHTING LEGEND:

- EXISTING LIGHTING
- LIGHTING STANDARD
- WALL MOUNTED LIGHTING
- SOFFIT LIGHTING
- PEDESTAL LIGHTING

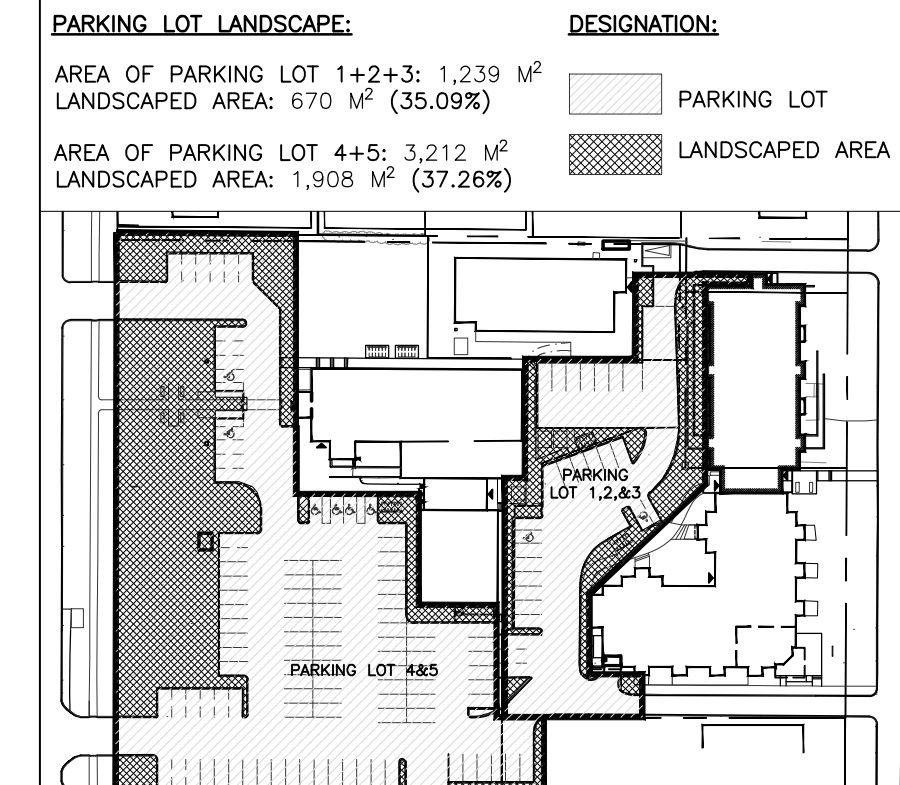
1 SITE PLAN
1:250

DRAWING LEGEND:

- EXISTING CONSTRUCTION
- NEW CONSTRUCTION (SCOPE OF WORK)
- TREES TO BE REMOVED
- TREES TO BE RELOCATED - REFER TO TREE CONSERVATION REPORT
- SHRUBS TO BE REMOVED
- EXISTING FIRE HYDRANT
- EXISTING FENCE
- RETAINING WALL
- DEPRESSED CURB AND TWSI
- BIKE RACKS
- 6M WIDE FIRE ROUTE ACCESS
- 2HR FIREWALL

DRAWING NOTES:

- EXISTING SHEDS TO BE RELOCATED
- RELOCATED SHEDS
- RELOCATE LIGHT POLES
- RELOCATE HYDRO TRANSFORMER
- EXISTING RECTORY TO BE DEMOLISHED
- REMOVE EXISTING TREES
- EXISTING SIGNS
- EXISTING HOME TO BE DEMOLISHED
- 0.6Mx1.8M BENCH
- NEW ENLARGED PATIO TO REPLACE EXISTING
- VAN PARKING
- REMOVE PART OF EXISTING CANOPY
- EXISTING CATCH BASIN
- EXISTING CONCRETE SIDEWALK TO BE REMOVED
- EXISTING WALKWAY TO BE REMOVED
- EXISTING PLANTER TO BE REMOVED
- EXISTING CHAIN LINK FENCE TO BE REMOVED
- EXISTING CONCRETE RETAINING WALL TO BE REMOVED
- EXISTING CONCRETE PORCH AND STEPS TO BE REMOVED
- LOCATION OF MEMORIAL
- LINE OF NEW CANOPY ABOVE
- 2.4Mx3.0M GARDEN SHED
- WATER OUTLET FOR GARDEN
- 1.5Mx4.8M GARBAGE SHED
- CONCRETE STAIRS AND RAMP
- BAY PROJECTION ABOVE



2262 BRAESIDE AVENUE, OTTAWA, ON

PROJECT NAME
ELLWOOD HOUSE EXTENSION

DRAWING TITLE
SITE PLAN

DRAWING NO.
SP1

DATE
4/4/22

PROJECT NO.
#001-16

D07-12-21-0174
PLAN NO.: 18637

APPENDIX

D TRANS O-D SURVEY

Alta Vista

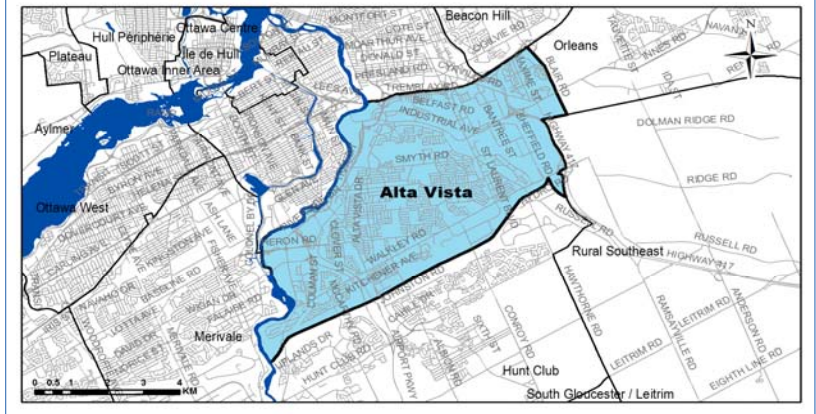
Demographic Characteristics

| | | | |
|---------------------|--------|-------------------------|--------|
| Population | 74,770 | Actively Travelled | 59,190 |
| Employed Population | 32,910 | Number of Vehicles | 37,270 |
| Households | 32,590 | Area (km ²) | 38.5 |

| Occupation Status (age 5+) | Male | Female | Total |
|----------------------------|---------------|---------------|---------------|
| Full Time Employed | 15,840 | 12,940 | 28,780 |
| Part Time Employed | 1,660 | 2,470 | 4,130 |
| Student | 8,130 | 8,750 | 16,870 |
| Retiree | 6,200 | 8,840 | 15,030 |
| Unemployed | 1,200 | 950 | 2,150 |
| Homemaker | 50 | 2,150 | 2,200 |
| Other | 630 | 900 | 1,530 |
| Total: | 33,700 | 36,990 | 70,700 |

| Traveller Characteristics | Male | Female | Total |
|---------------------------|--------|--------|---------|
| Transit Pass Holders | 7,620 | 9,140 | 16,760 |
| Licensed Drivers | 25,060 | 24,810 | 49,870 |
| Telecommuters | 140 | 60 | 200 |
| Trips made by residents | 92,440 | 98,770 | 191,210 |

| Selected Indicators | |
|---|------|
| Daily Trips per Person (age 5+) | 2.70 |
| Vehicles per Person | 0.50 |
| Number of Persons per Household | 2.29 |
| Daily Trips per Household | 5.87 |
| Vehicles per Household | 1.14 |
| Workers per Household | 1.01 |
| Population Density (Pop/km ²) | 1940 |

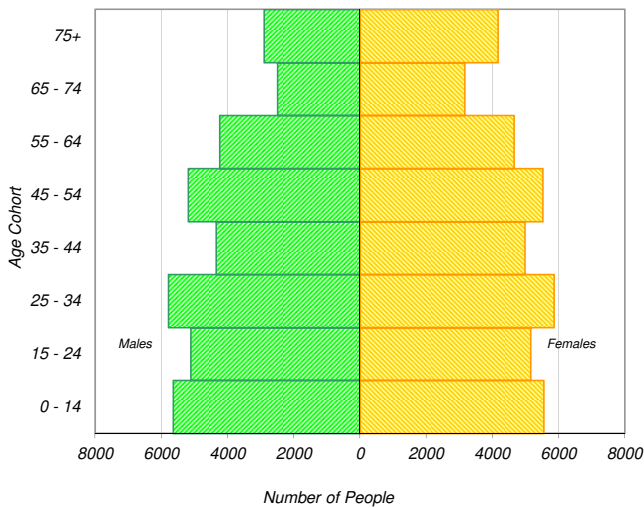


| Household Size | | |
|----------------|---------------|-------------|
| 1 person | 10,780 | 33% |
| 2 persons | 11,010 | 34% |
| 3 persons | 4,790 | 15% |
| 4 persons | 3,880 | 12% |
| 5+ persons | 2,130 | 7% |
| Total: | 32,590 | 100% |

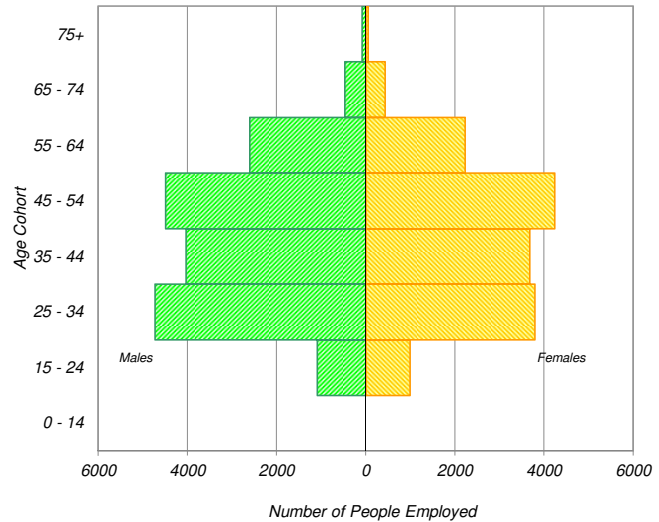
| Households by Vehicle Availability | | |
|------------------------------------|---------------|-------------|
| 0 vehicles | 6,320 | 19% |
| 1 vehicle | 16,930 | 52% |
| 2 vehicles | 8,030 | 25% |
| 3 vehicles | 1,030 | 3% |
| 4+ vehicles | 290 | 1% |
| Total: | 32,590 | 100% |

| Households by Dwelling Type | | |
|-----------------------------|---------------|-------------|
| Single-detached | 12,320 | 38% |
| Semi-detached | 1,790 | 5% |
| Townhouse | 4,700 | 14% |
| Apartment/Condo | 13,780 | 42% |
| Total: | 32,590 | 100% |

Population



Employed Population

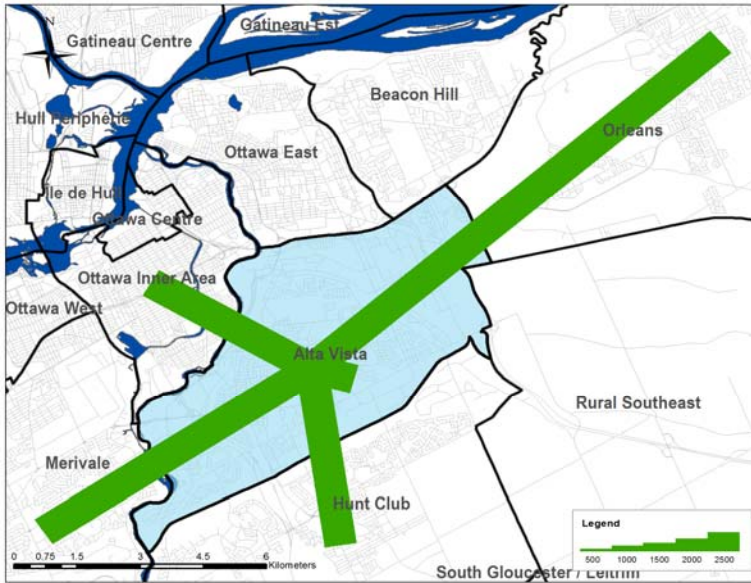


* In 2005 data was only collected for household members aged 11+ therefore these results cannot be compared to the 2011 data.

Travel Patterns

Top Five Origins of Trips to Alta Vista

AM Peak Period



Summary of Trips to and from Alta Vista

AM Peak Period (6:30 - 8:59)

| Districts | Destinations of Trips From | | Origins of Trips To | |
|-----------------------------|----------------------------|-------------|---------------------|-------------|
| | District | % Total | District | % Total |
| Ottawa Centre | 4,180 | 10% | 680 | 1% |
| Ottawa Inner Area | 4,970 | 12% | 4,270 | 7% |
| Ottawa East | 1,940 | 5% | 2,370 | 4% |
| Beacon Hill | 2,690 | 7% | 1,850 | 3% |
| Alta Vista | 16,220 | 39% | 16,220 | 27% |
| Hunt Club | 1,980 | 5% | 7,990 | 13% |
| Merivale | 3,010 | 7% | 3,690 | 6% |
| Ottawa West | 1,160 | 3% | 1,550 | 3% |
| Bayshore / Cedarview | 830 | 2% | 2,330 | 4% |
| Orléans | 1,050 | 3% | 5,890 | 10% |
| Rural East | 110 | 0% | 430 | 1% |
| Rural Southeast | 140 | 0% | 1,550 | 3% |
| South Gloucester / Leirtrim | 160 | 0% | 1,970 | 3% |
| South Nepean | 460 | 1% | 2,360 | 4% |
| Rural Southwest | 160 | 0% | 690 | 1% |
| Kanata / Stittsville | 660 | 2% | 1,810 | 3% |
| Rural West | 20 | 0% | 180 | 0% |
| Île de Hull | 710 | 2% | 190 | 0% |
| Hull Périphérie | 360 | 1% | 420 | 1% |
| Plateau | 0 | 0% | 680 | 1% |
| Aylmer | 40 | 0% | 480 | 1% |
| Rural Northwest | 40 | 0% | 300 | 1% |
| Pointe Gatineau | 20 | 0% | 740 | 1% |
| Gatineau Est | 220 | 1% | 270 | 0% |
| Rural Northeast | 10 | 0% | 320 | 1% |
| Buckingham / Masson-Angers | 10 | 0% | 70 | 0% |
| Ontario Sub-Total: | 39,740 | 97% | 55,830 | 94% |
| Québec Sub-Total: | 1,410 | 3% | 3,470 | 6% |
| Total: | 41,150 | 100% | 59,300 | 100% |

Trips by Trip Purpose

| 24 Hours | From District | | To District | | Within District | |
|---------------------------|----------------|-------------|----------------|-------------|-----------------|-------------|
| Work or related | 22,370 | 15% | 46,540 | 31% | 10,770 | 13% |
| School | 8,550 | 6% | 8,090 | 5% | 6,440 | 8% |
| Shopping | 16,500 | 11% | 16,600 | 11% | 14,550 | 17% |
| Leisure | 11,940 | 8% | 13,340 | 9% | 7,720 | 9% |
| Medical | 2,990 | 2% | 7,860 | 5% | 2,380 | 3% |
| Pick-up / drive passenger | 9,390 | 6% | 9,900 | 6% | 6,990 | 8% |
| Return Home | 75,570 | 50% | 44,070 | 29% | 33,060 | 39% |
| Other | 4,870 | 3% | 6,050 | 4% | 3,240 | 4% |
| Total: | 152,180 | 100% | 152,450 | 100% | 85,150 | 100% |

| AM Peak (06:30 - 08:59) | From District | | To District | | Within District | |
|---------------------------|---------------|-------------|---------------|-------------|-----------------|-------------|
| Work or related | 13,920 | 56% | 28,300 | 66% | 5,390 | 33% |
| School | 5,340 | 21% | 7,330 | 17% | 5,600 | 35% |
| Shopping | 510 | 2% | 530 | 1% | 320 | 2% |
| Leisure | 570 | 2% | 990 | 2% | 480 | 3% |
| Medical | 500 | 2% | 1,760 | 4% | 460 | 3% |
| Pick-up / drive passenger | 1,790 | 7% | 2,490 | 6% | 2,110 | 13% |
| Return Home | 1,380 | 6% | 730 | 2% | 910 | 6% |
| Other | 910 | 4% | 940 | 2% | 930 | 6% |
| Total: | 24,920 | 100% | 43,070 | 100% | 16,200 | 100% |

| PM Peak (15:30 - 17:59) | From District | | To District | | Within District | |
|---------------------------|---------------|-------------|---------------|-------------|-----------------|-------------|
| Work or related | 820 | 2% | 1,340 | 5% | 740 | 4% |
| School | 550 | 1% | 90 | 0% | 70 | 0% |
| Shopping | 3,920 | 9% | 3,630 | 13% | 2,830 | 14% |
| Leisure | 2,550 | 6% | 2,440 | 9% | 1,580 | 8% |
| Medical | 260 | 1% | 670 | 2% | 300 | 2% |
| Pick-up / drive passenger | 3,310 | 7% | 2,550 | 9% | 2,390 | 12% |
| Return Home | 31,900 | 72% | 15,950 | 57% | 11,310 | 58% |
| Other | 1,270 | 3% | 1,230 | 4% | 440 | 2% |
| Total: | 44,580 | 100% | 27,900 | 100% | 19,660 | 100% |

| Peak Period (%) | Total: | % of 24 Hours | Within District (%) |
|-----------------|---------|---------------|---------------------|
| 24 Hours | 389,780 | | 22% |
| AM Peak Period | 84,190 | 22% | 19% |
| PM Peak Period | 92,140 | 24% | 21% |

Trips by Primary Travel Mode

| 24 Hours | From District | | To District | | Within District | |
|----------------|----------------|-------------|----------------|-------------|-----------------|-------------|
| Auto Driver | 92,240 | 61% | 92,670 | 61% | 43,390 | 51% |
| Auto Passenger | 24,030 | 16% | 24,040 | 16% | 13,430 | 16% |
| Transit | 27,890 | 18% | 27,220 | 18% | 6,520 | 8% |
| Bicycle | 2,180 | 1% | 2,110 | 1% | 1,390 | 2% |
| Walk | 1,440 | 1% | 1,510 | 1% | 15,170 | 18% |
| Other | 4,420 | 3% | 4,890 | 3% | 5,260 | 6% |
| Total: | 152,200 | 100% | 152,440 | 100% | 85,160 | 100% |

| AM Peak (06:30 - 08:59) | From District | | To District | | Within District | |
|-------------------------|---------------|-------------|---------------|-------------|-----------------|-------------|
| Auto Driver | 12,430 | 50% | 26,810 | 62% | 6,330 | 39% |
| Auto Passenger | 3,040 | 12% | 5,100 | 12% | 2,500 | 15% |
| Transit | 7,540 | 30% | 7,300 | 17% | 1,700 | 10% |
| Bicycle | 750 | 3% | 750 | 2% | 340 | 2% |
| Walk | 280 | 1% | 280 | 1% | 3,210 | 20% |
| Other | 880 | 4% | 2,850 | 7% | 2,140 | 13% |
| Total: | 24,920 | 100% | 43,090 | 100% | 16,220 | 100% |

| PM Peak (15:30 - 17:59) | From District | | To District | | Within District | |
|-------------------------|---------------|-------------|---------------|-------------|-----------------|-------------|
| Auto Driver | 28,570 | 64% | 15,990 | 57% | 9,640 | 49% |
| Auto Passenger | 5,930 | 13% | 4,230 | 15% | 3,570 | 18% |
| Transit | 7,460 | 17% | 6,420 | 23% | 1,500 | 8% |
| Bicycle | 630 | 1% | 610 | 2% | 470 | 2% |
| Walk | 340 | 1% | 310 | 1% | 3,280 | 17% |
| Other | 1,660 | 4% | 340 | 1% | 1,210 | 6% |
| Total: | 44,590 | 100% | 27,900 | 100% | 19,670 | 100% |

| Avg Vehicle Occupancy | From District | | To District | | Within District | |
|-----------------------|---------------|--|-------------|--|-----------------|--|
| 24 Hours | 1.26 | | 1.26 | | 1.31 | |
| AM Peak Period | 1.24 | | 1.19 | | 1.39 | |
| PM Peak Period | 1.21 | | 1.26 | | 1.37 | |

| Transit Modal Split | From District | | To District | | Within District | |
|---------------------|---------------|--|-------------|--|-----------------|--|
| 24 Hours | 19% | | 19% | | 10% | |
| AM Peak Period | 33% | | 19% | | 16% | |
| PM Peak Period | 18% | | 24% | | 10% | |

APPENDIX

E

DEVELOPMENT DESIGN CHECKLIST

TDM-Supportive Development Design and Infrastructure Checklist:
Residential Developments (multi-family or condominium)

| Legend | |
|-----------------|--|
| REQUIRED | The Official Plan or Zoning By-law provides related guidance that must be followed |
| BASIC | The measure is generally feasible and effective, and in most cases would benefit the development and its users |
| BETTER | The measure could maximize support for users of sustainable modes, and optimize development performance |

| TDM-supportive design & infrastructure measures: <i>Residential developments</i> | | Check if completed & add descriptions, explanations or plan/drawing references |
|---|--|---|
| 1. WALKING & CYCLING: ROUTES | | |
| 1.1 Building location & access points | | |
| BASIC | 1.1.1 Locate building close to the street, and do not locate parking areas between the street and building entrances | <input type="checkbox"/> |
| BASIC | 1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations | <input checked="" type="checkbox"/> |
| BASIC | 1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort | <input checked="" type="checkbox"/> |
| 1.2 Facilities for walking & cycling | | |
| REQUIRED | 1.2.1 Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations (see <i>Official Plan policy 4.3.3</i>) | <input type="checkbox"/> N/A |
| REQUIRED | 1.2.2 Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible (see <i>Official Plan policy 4.3.12</i>) | <input type="checkbox"/> Pedestrians accessing Alta Vista Drive will have to briefly cross the parking lot, but much of the internal pedestrian routing can be completed via the sidewalk/crosswalks near the Church |

| TDM-supportive design & infrastructure measures: <i>Residential developments</i> | | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|--|
| REQUIRED | 1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks (see <i>Official Plan policy 4.3.10</i>) | <input checked="" type="checkbox"/> |
| REQUIRED | 1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps (see <i>Official Plan policy 4.3.10</i>) | <input type="checkbox"/> Given the distance (greater than 100m) to Alta Vista Drive, it is not anticipated that many residents will make that trip |
| REQUIRED | 1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (see <i>Official Plan policy 4.3.11</i>) | <input type="checkbox"/> If required, pedestrian are only required to cross a short segment of the parking lot when traveling to/from Alta Vista Drive |
| BASIC | 1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops | <input type="checkbox"/> |
| BASIC | 1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible | <input checked="" type="checkbox"/> |
| BASIC | 1.2.8 Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility | <input type="checkbox"/> N/A |
| 1.3 Amenities for walking & cycling | | |
| BASIC | 1.3.1 Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails | <input type="checkbox"/> |
| BASIC | 1.3.2 Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious) | <input type="checkbox"/> |

Further comments on Measures 1.2.2, 1.2.4 and 1.2.5: The design team for the proposed development has conducted several discussions and brainstorm sessions to address the three required measures. Given the existing conditions, the site layout limits the pedestrian and cycling connections within the parking lot. The Alta Vista Drive bus stop is greater than 100 m (330 ft) from the Ellwood House entrance. While many residents have private vehicles, those that rely on transit could walk to the Alta Vista Drive bus stop. If residents have mobility challenges, they would more likely use Para Transpo.

Additionally, the sidewalk along the northside of the church provides safe pedestrian access for any resident walking to Alta Vista Drive. While it does require residents to cross the parking lot, given that the parking lot is shared with a church and school, it is not anticipated that there would be significant traffic circulation within the parking lot. Signage could be added in the parking lot to advise drivers of residents/seniors in the parking lot, encourage cautious driving and provide the pedestrians with the right-of-way.

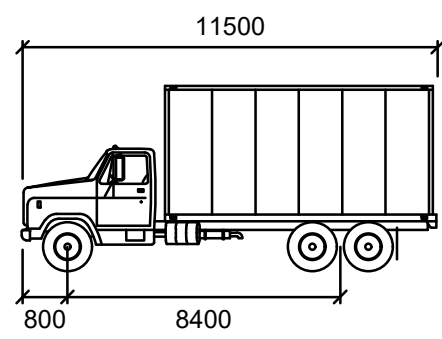
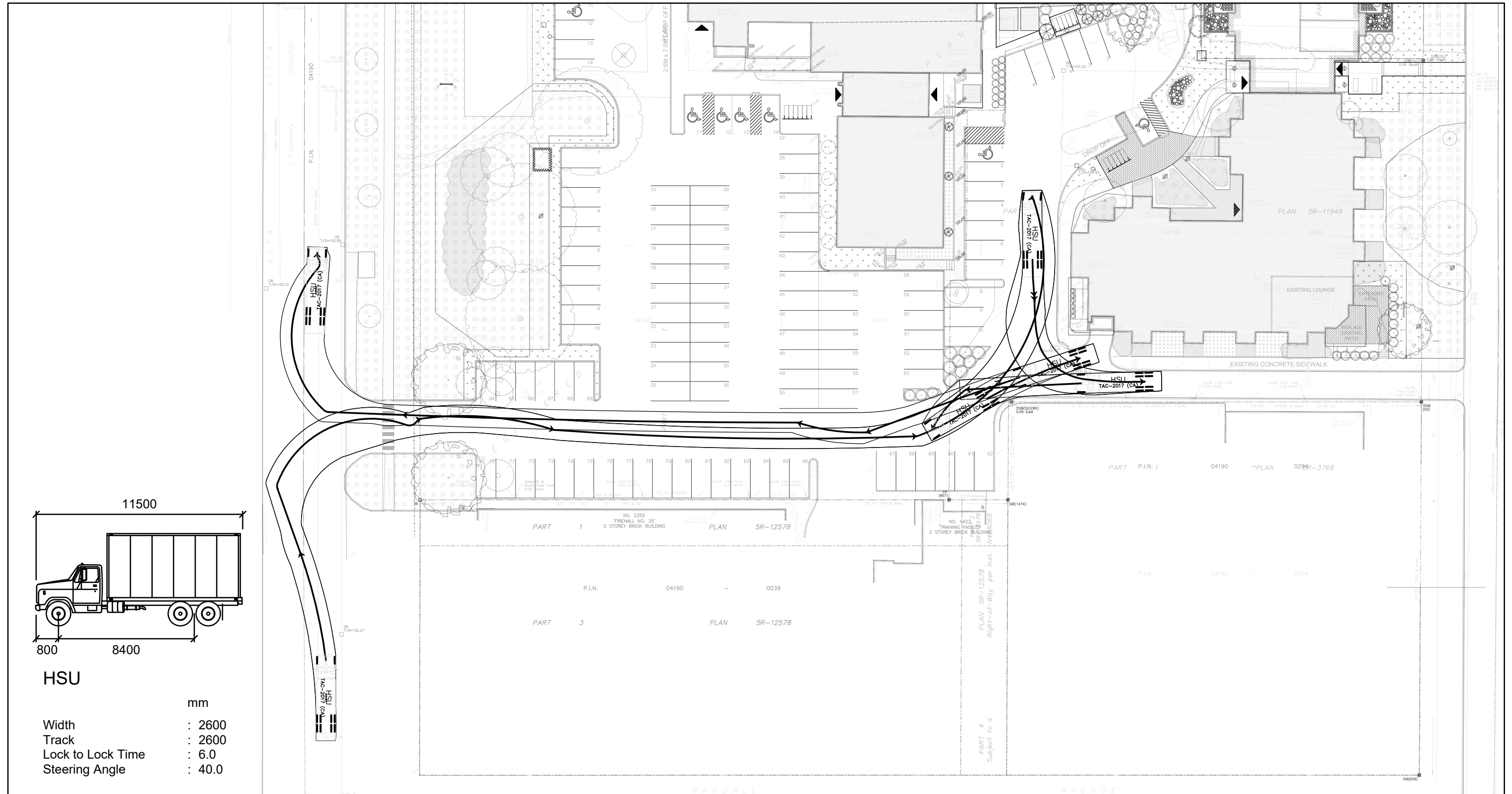
| TDM-supportive design & infrastructure measures: <i>Residential developments</i> | | Check if completed & add descriptions, explanations or plan/drawing references | |
|---|-------|--|-------------------------------------|
| 2. WALKING & CYCLING: END-OF-TRIP FACILITIES | | | |
| 2.1 Bicycle parking | | | |
| REQUIRED | 2.1.1 | Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see <i>Official Plan policy 4.3.6</i>) | <input checked="" type="checkbox"/> |
| REQUIRED | 2.1.2 | Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (see <i>Zoning By-law Section 111</i>) | <input checked="" type="checkbox"/> |
| REQUIRED | 2.1.3 | Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (see <i>Zoning By-law Section 111</i>) | <input checked="" type="checkbox"/> |
| BASIC | 2.1.4 | Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists | <input type="checkbox"/> |
| 2.2 Secure bicycle parking | | | |
| REQUIRED | 2.2.1 | Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (see <i>Zoning By-law Section 111</i>) | <input type="checkbox"/> N/A |
| BETTER | 2.2.2 | Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments | <input type="checkbox"/> |
| 2.3 Bicycle repair station | | | |
| BETTER | 2.3.1 | Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided) | <input type="checkbox"/> |
| 3. TRANSIT | | | |
| 3.1 Customer amenities | | | |
| BASIC | 3.1.1 | Provide shelters, lighting and benches at any on-site transit stops | <input type="checkbox"/> N/A |
| BASIC | 3.1.2 | Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter | <input type="checkbox"/> N/A |
| BETTER | 3.1.3 | Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building | <input type="checkbox"/> N/A |

| TDM-supportive design & infrastructure measures: <i>Residential developments</i> | | Check if completed & add descriptions, explanations or plan/drawing references |
|---|--|--|
| 4. RIDESHARING | | |
| 4.1 Pick-up & drop-off facilities | | |
| BASIC | 4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones | <input type="checkbox"/> |
| 5. CARSHARING & BIKESHARING | | |
| 5.1 Carshare parking spaces | | |
| BETTER | 5.1.1 Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses (see <i>Zoning By-law Section 94</i>) | <input type="checkbox"/> N/A |
| 5.2 Bikeshare station location | | |
| BETTER | 5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection | <input type="checkbox"/> |
| 6. PARKING | | |
| 6.1 Number of parking spaces | | |
| REQUIRED | 6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for | <input checked="" type="checkbox"/> |
| BASIC | 6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking | <input type="checkbox"/> |
| BASIC | 6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (see <i>Zoning By-law Section 104</i>) | <input type="checkbox"/> |
| BETTER | 6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (see <i>Zoning By-law Section 111</i>) | <input type="checkbox"/> |
| 6.2 Separate long-term & short-term parking areas | | |
| BETTER | 6.2.1 Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa) | <input type="checkbox"/> |

APPENDIX

F

AUTOTURN
ANALYSIS



HSU

mm

Width : 2600

Track : 2600

Lock to Lock Time : 6.0

Steering Angle : 40.0



2611 QUEENVIEW DRIVE
OTTAWA ONTARIO CANADA K2B 8K2
TEL.: 613-829-2800 | WWW.WSP.COM

| | | | |
|-----|-----|------------|----------------------------------|
| | | | |
| | | | |
| | | | |
| A | | 2022-04-29 | TRANSPORTATION IMPACT ASSESSMENT |
| IS. | RV. | DATE | DESCRIPTION |

SEAL:

CLIENT:
ELLWOOD HOUSE LTD.

CLIENT REF. #: --

PROJECT:
**2262 BRAESIDE AVENUE
TRANSPORTATION IMPACT ASSESSMENT**

PROJECT NO:
20M-01221-00

DESIGNED BY:
JP/NS

DRAWN BY:
NS

CHECKED BY:
KH

DRAWING NO:
TT-01

DATE / DATE:
2022-04-29

SCALE:
1:500

TITLE:
TRUCK TURNING MOVEMENT PLAN

DISCIPLINE:
TRANSPORTATION PLANNING

ISSUE:
A

DATE OF: **2022-04-29**

RV. #
0

APPENDIX

G MMLOS SEGMENT CALCULATIONS

APPENDIX

H

TDM

CHECKLIST

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

| Legend | |
|---------------|--|
| BASIC | The measure is generally feasible and effective, and in most cases would benefit the development and its users |
| BETTER | The measure could maximize support for users of sustainable modes, and optimize development performance |
| ★ | The measure is one of the most dependably effective tools to encourage the use of sustainable modes |

| TDM measures: Residential developments | | Check if proposed & add descriptions |
|---|---|---|
| 1. TDM PROGRAM MANAGEMENT | | |
| 1.1 Program coordinator | | |
| BASIC | ★ 1.1.1 Designate an internal coordinator, or contract with an external coordinator | <input type="checkbox"/> |
| 1.2 Travel surveys | | |
| BETTER | 1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress | <input type="checkbox"/> |
| 2. WALKING AND CYCLING | | |
| 2.1 Information on walking/cycling routes & destinations | | |
| BASIC | 2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances (<i>multi-family, condominium</i>) | <input checked="" type="checkbox"/> |
| 2.2 Bicycle skills training | | |
| BETTER | 2.2.1 Offer on-site cycling courses for residents, or subsidize off-site courses | <input type="checkbox"/> |

| TDM measures: <i>Residential developments</i> | | Check if proposed & add descriptions |
|---|--|--------------------------------------|
| 3. TRANSIT | | |
| 3.1 Transit information | | |
| BASIC | 3.1.1 Display relevant transit schedules and route maps at entrances (<i>multi-family, condominium</i>) | <input checked="" type="checkbox"/> |
| BETTER | 3.1.2 Provide real-time arrival information display at entrances (<i>multi-family, condominium</i>) | <input type="checkbox"/> |
| 3.2 Transit fare incentives | | |
| BASIC ★ | 3.2.1 Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit | <input checked="" type="checkbox"/> |
| BETTER | 3.2.2 Offer at least one year of free monthly transit passes on residence purchase/move-in | <input type="checkbox"/> |
| 3.3 Enhanced public transit service | | |
| BETTER ★ | 3.3.1 Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels (<i>subdivision</i>) | <input type="checkbox"/> |
| 3.4 Private transit service | | |
| BETTER | 3.4.1 Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs) | <input checked="" type="checkbox"/> |
| 4. CARSHARING & BIKESHARING | | |
| 4.1 Bikeshare stations & memberships | | |
| BETTER | 4.1.1 Contract with provider to install on-site bikeshare station (<i>multi-family</i>) | <input type="checkbox"/> |
| BETTER | 4.1.2 Provide residents with bikeshare memberships, either free or subsidized (<i>multi-family</i>) | <input type="checkbox"/> |
| 4.2 Carshare vehicles & memberships | | |
| BETTER | 4.2.1 Contract with provider to install on-site carshare vehicles and promote their use by residents | <input type="checkbox"/> |
| BETTER | 4.2.2 Provide residents with carshare memberships, either free or subsidized | <input type="checkbox"/> |
| 5. PARKING | | |
| 5.1 Priced parking | | |
| BASIC ★ | 5.1.1 Unbundle parking cost from purchase price (<i>condominium</i>) | <input type="checkbox"/> |
| BASIC ★ | 5.1.2 Unbundle parking cost from monthly rent (<i>multi-family</i>) | <input type="checkbox"/> |

| TDM measures: <i>Residential developments</i> | | Check if proposed & add descriptions |
|---|---|--------------------------------------|
| 6. TDM MARKETING & COMMUNICATIONS | | |
| 6.1 Multimodal travel information | | |
| BASIC ★ | 6.1.1 Provide a multimodal travel option information package to new residents | <input checked="" type="checkbox"/> |
| 6.2 Personalized trip planning | | |
| BETTER ★ | 6.2.1 Offer personalized trip planning to new residents | <input type="checkbox"/> |